

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 2, 2004, 18:44:23 ; Search time 50.5 Seconds
(without alignments)
55.950 Million cell updates/sec

Title: US-09-857-115-6

Perfect score: 73

Sequence: 1 EHWSHGWYPG 10

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 500 summaries

Database : A_Geneseq_29Jan04.*

1: Genesep1980s.*

2: Genesep1990s.*

3: Genesep2000s.*

4: Genesep2001s.*

5: Genesep2002s.*

6: Genesep2003as.*

7: Genesep2003bs.*

8: Genesep2004s.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	73	100.0	10	1	AAP50612 Sequence
2	73	100.0	10	2	AAR75156 Chicken
3	73	100.0	10	2	AAW76390 Chicken
4	73	100.0	10	2	AAW96768 Chicken
5	73	100.0	10	2	AAW84295 Hormone d
6	73	100.0	10	3	AAW88386 GnRH-II a
7	73	100.0	10	3	AAW806262 Gonadotro
8	73	100.0	10	3	AAW79309 Chicken G
9	73	100.0	10	4	AAW90962 Luteinisi
10	73	100.0	10	5	ABW06175 Gonadotro
11	73	100.0	10	5	AAE15666 Chicken
12	73	100.0	10	6	ADA88928 Chicken
13	73	100.0	10	6	AAO31042 Chicken
14	73	100.0	10	6	AAO31057 African c
15	73	100.0	10	7	ADD24647 Chicken lu
16	73	100.0	12	3	AAW79311 Chicken g
17	73	100.0	16	3	AAW79310 Linker-ch
18	73	100.0	60	3	AAW79308 Chicken g
19	70	95.9	10	6	AAO31059 Pacific h
20	70	95.9	10	6	AAO31050 Spiny dog
21	70	95.9	85	2	AAW75149 H. burton
22	70	95.9	89	2	AAW75150 Treeshrew
23	70	95.9	120	5	AAE15401 Human gon
24	70	95.9	120	6	AAE35115 Human gon
25	68	93.2	9	2	AAW97761 Seabream

26	67	91.8	10	1	AAP81581	LHRH anal
27	67	91.8	10	1	AAP81582	LHRH anal
28	66	90.4	10	6	ABR39986	Chicken I
29	65	89.0	10	1	AAP81574	LHRH anal
30	65	89.0	10	1	AAP81573	LHRH anal
31	65	89.0	10	2	AAW11850	Example o
32	65	89.0	10	2	AAW11849	Example o
33	65	89.0	10	2	AAW75157	Dogfish G
34	65	89.0	10	4	AAU08771	Chicken I
35	65	89.0	10	5	AAE28138	Alternati
36	65	89.0	10	6	ADA88935	Dogfish g
37	65	89.0	10	6	AAO31043	Dogfish g
38	64	87.7	10	1	AAP81576	LHRH anal
39	62.5	85.6	11	3	AAW88387	GnRH-II a
40	62.5	85.6	11	3	AAW88387	GnRH-II a
41	62	84.9	10	6	AAO31051	Spiny dog
42	62	84.9	10	6	AAO31055	Spiny dog
43	61	83.6	12	5	ABW06171	Gonadotro
44	60	82.2	10	1	AAP81579	LHRH anal
45	60	82.2	10	5	AAE28137	Alternati
46	59	80.8	10	1	AAP40552	Sequence
47	59	80.8	10	1	AAP50510	Sequence
48	59	80.8	10	2	AAW11843	Example o
49	59	80.8	10	2	AAW11844	Example o
50	59	80.8	10	2	AAW75154	Salmon Gn
51	59	80.8	10	2	AAW77429	Salmon lu
52	59	80.8	10	2	AAW96767	Salmon lu
53	59	80.8	10	4	AAW90981	Luteinisi
54	59	80.8	10	5	ABW06176	Gonadotro
55	59	80.8	10	5	AAW78821	Chicken g
56	59	80.8	10	5	AAE15665	Salmon lu
57	59	80.8	10	5	AAE28135	Chicken g
58	59	80.8	10	6	ADA88929	Salmon go
59	59	80.8	10	6	AAO31041	Salmon go
60	59	80.8	10	7	ADD24646	Salmon lu
61	58	79.5	10	2	AAW96772	Lamprey I
62	58	79.5	10	2	AAW96770	Lamprey I
63	58	79.5	10	2	AAW96778	Lamprey I
64	58	79.5	10	2	AAW96780	Lamprey I
65	58	79.5	10	5	AAE15670	Lamprey I
66	58	79.5	10	5	AAE15668	Lamprey I
67	58	79.5	10	7	ADD24651	Lamprey I
68	58	79.5	10	7	ADD24649	Lamprey I
69	57	78.1	10	2	AAW03394	Cyclo[asp
70	57	78.1	10	2	AAW03707	Lamprey-I
71	57	78.1	10	2	AAW03399	[trp]For-
72	57	78.1	10	2	AAW76388	Rat I-LHR
73	57	78.1	10	2	AAW96792	Lamprey I
74	57	78.1	10	2	AAW96786	Lamprey I
75	57	78.1	10	2	AAW96790	Lamprey I
76	57	78.1	10	2	AAW96794	Lamprey I
77	57	78.1	10	2	AAW96764	Lamprey I
78	57	78.1	10	2	AAW96795	Lamprey I
79	57	78.1	10	2	AAW84293	Hormone d
80	57	78.1	10	5	ABW06178	Gonadotro
81	57	78.1	10	5	AAE15692	Lamprey I
82	57	78.1	10	5	AAE15678	Lamprey I
83	57	78.1	10	5	AAE15688	Lamprey I
84	57	78.1	10	5	AAE15682	Lamprey I
85	57	78.1	10	5	AAE15684	Lamprey I
86	57	78.1	10	5	AAE15693	Lamprey I
87	57	78.1	10	5	AAE15686	Lamprey I
88	57	78.1	10	5	AAE15690	Lamprey I
89	57	78.1	10	5	AAE15676	Lamprey I
90	57	78.1	10	6	ADA88931	Lamprey I
91	57	78.1	10	6	AAO31044	Lamprey g
92	57	78.1	10	7	ADD24659	Lamprey I
93	57	78.1	10	7	ADD24669	Lamprey I
94	57	78.1	10	7	ADD24643	Lamprey I
95	57	78.1	10	7	ADD24665	Lamprey I
96	57	78.1	10	7	ADD24671	Lamprey I
97	57	78.1	10	7	ADD24667	Lamprey I
98	57	78.1	10	7	ADD24657	Lamprey I

99	57	78.1	33	2	AAW76387	AAW76387 Rat 1-LHR	172	48	65.8	10	2	AAW03388	AAW03388 Lys(5)-cy
100	57	78.1	33	2	AAW84292	AAW84292 LHRH-III	173	48	65.8	10	2	AAW03387	AAW03387 Lys(5)-Gn
101	56	76.7	10	2	AAW11846	AAW11846 Example o	174	48	65.8	10	6	AAO31048	AAO31048 Pacific h
102	56	76.7	10	2	AAW11846	AAW11846 Example o	175	47	64.4	9	5	AAE15671	AAE15671 Lamprey 1
103	56	76.7	10	2	AAW03393	AAW03393 Glu(6)-Gn	176	47	64.4	9	5	AAE15669	AAE15669 Lamprey 1
104	56	76.7	10	2	AAW96782	AAW96782 Lamprey I	177	47	64.4	9	7	ADD24650	ADD24650 Lamprey 1
105	56	76.7	10	2	AAW96788	AAW96788 Lamprey I	178	47	64.4	9	7	ADD24652	ADD24652 Lamprey 1
106	56	76.7	10	2	AAW96784	AAW96784 Lamprey I	179	47	64.4	10	2	AAW03400	AAW03400 Phe(7)-Gn
107	56	76.7	10	5	AAE15682	AAE15682 Lamprey 1	180	47	64.4	10	2	AAW96797	AAW96797 Lamprey 1
108	56	76.7	10	5	AAE15680	AAE15680 Lamprey 1	181	47	64.4	10	2	AAW96796	AAW96796 Lamprey 1
109	56	76.7	10	6	AAO31058	AAO31058 Pacific h	182	47	64.4	10	5	AAE15696	AAE15696 Lamprey 1
110	56	76.7	10	7	ADD24663	ADD24663 Lamprey 1	183	47	64.4	10	5	AAE15695	AAE15695 Lamprey 1
111	56	76.7	10	7	ADD24661	ADD24661 Lamprey 1	184	47	64.4	10	7	ADD24677	ADD24677 Lamprey 1
112	54	74.0	9	4	AAE0985	AAE0985 Luteinisi	185	47	64.4	10	7	ADD24676	ADD24676 Lamprey 1
113	54	74.0	10	1	AAE1577	AAE1577 LHR anal	186	46	63.0	9	5	AAE15679	AAE15679 Lamprey 1
114	54	74.0	10	2	AAW96776	AAW96776 Lamprey I	187	46	63.0	9	5	AAE15677	AAE15677 Lamprey 1
115	54	74.0	10	2	AAW96774	AAW96774 Lamprey I	188	46	63.0	9	5	AAE15685	AAE15685 Lamprey 1
116	54	74.0	10	5	AAE15674	AAE15674 Lamprey 1	189	46	63.0	9	5	AAE15667	AAE15667 Lamprey 1
117	54	74.0	10	5	AAE15672	AAE15672 Lamprey 1	190	46	63.0	9	5	AAE15691	AAE15691 Lamprey 1
118	54	74.0	10	6	AAO31053	AAO31053 Sea lamp	191	46	63.0	9	5	AAE15689	AAE15689 Lamprey 1
119	54	74.0	10	7	ADD24653	ADD24653 Lamprey 1	192	46	63.0	9	5	AAE15687	AAE15687 Lamprey 1
120	54	74.0	10	7	ADD24655	ADD24655 Lamprey 1	193	46	63.0	9	7	ADD24668	ADD24668 Lamprey 1
121	53	72.6	9	1	AAE0511	AAE0511 Sequence	194	46	63.0	9	7	ADD24660	ADD24660 Lamprey 1
122	53	72.6	10	1	AAW03247	AAW03247 Sequence	195	46	63.0	9	7	ADD24670	ADD24670 Lamprey 1
123	53	72.6	10	2	AAW03390	AAW03390 Lys(4), Ly	196	46	63.0	9	7	ADD24672	ADD24672 Lamprey 1
124	53	72.6	10	2	AAW03391	AAW03391 Lys(4)-Gn	197	46	63.0	9	7	ADD24648	ADD24648 Lamprey 1
125	53	72.6	10	2	AAW03392	AAW03392 Lys(4)-Gn	198	46	63.0	9	7	ADD24658	ADD24658 Lamprey 1
126	52	71.2	9	2	AAW96779	AAW96779 Lamprey I	199	46	63.0	9	7	ADD24666	ADD24666 Lamprey 1
127	52	71.2	9	2	AAW96781	AAW96781 Lamprey I	200	46	63.0	10	2	AAW75153	AAW75153 Chicken 1
128	52	71.2	9	2	AAW96773	AAW96773 Lamprey I	201	46	63.0	10	2	AAW03396	AAW03396 H-D-Trp(1)
129	52	71.2	9	2	AAW96771	AAW96771 Lamprey I	202	46	63.0	10	2	AAW03398	AAW03398 H-D-Trp(1)
130	52	71.2	9	4	AAW59835	AAW59835 GnRH-III	203	46	63.0	10	2	AAW03397	AAW03397 AC-D-Trp(1)
131	52	71.2	10	1	AAW30246	AAW30246 Sequence	204	46	63.0	10	2	AAW16293	AAW16293 8-Met(S+M)
132	52	71.2	10	1	AAW81580	AAW81580 LHR anal	205	46	63.0	10	2	AAW76389	AAW76389 Chicken 1
133	52	71.2	10	1	AAW81578	AAW81578 LHR anal	206	46	63.0	10	2	AAW84294	AAW84294 Hormone d
134	52	71.2	10	1	AAW83019	AAW83019 Example o	207	46	63.0	10	4	AAW09666	AAW09666 Luteinisi
135	52	71.2	10	5	AAW50079	AAW50079 FSH relea	208	46	63.0	10	5	AAW06174	AAW06174 Gonadotro
136	52	71.2	10	6	AAW39987	AAW39987 Salmon Gn	209	46	63.0	10	6	AAW88927	AAW88927 Chicken 1
137	51	69.9	9	2	AAW03700	AAW03700 GnRH-III(	210	46	63.0	10	6	AAO31040	AAO31040 Chicken 1
138	51	69.9	9	2	AAW96769	AAW96769 Lamprey I	211	46	63.0	12	5	ABB06167	ABB06167 Gonadotro
139	51	69.9	9	2	AAW96791	AAW96791 Lamprey I	212	46	63.0	89	5	ABB06168	ABB06168 Gonadotro
140	51	69.9	9	2	AAW96793	AAW96793 Lamprey I	213	46	63.0	274	2	AAW44228	AAW44228 Chimeric
141	51	69.9	10	1	AAW81575	AAW81575 LHR anal	214	46	63.0	283	2	AAW11186	AAW11186 Plasmid p
142	51	69.9	10	2	AAW11845	AAW11845 Example o	215	46	63.0	456	3	AAW67238	AAW67238 Amino aci
143	51	69.9	10	2	AAW11848	AAW11848 Example o	216	45	61.6	9	4	AAW90977	AAW90977 Luteinisi
144	51	69.9	10	2	AAW75155	AAW75155 Catfish G	217	45	61.6	9	5	AAE15681	AAE15681 Lamprey 1
145	51	69.9	10	2	AAW03395	AAW03395 D-Ala(10)	218	45	61.6	9	5	AAE15683	AAE15683 Lamprey 1
146	51	69.9	10	2	AAW77431	AAW77431 Catfish g	219	45	61.6	9	7	ADD24662	ADD24662 Lamprey 1
147	51	69.9	10	4	AAW08772	AAW08772 Salmon g	220	45	61.6	9	7	ADD24664	ADD24664 Lamprey 1
148	51	69.9	10	5	AAW06172	AAW06172 Gonadotro	221	45	61.6	10	1	AAW10416	AAW10416 Luteinisi
149	51	69.9	10	5	AAE28136	AAE28136 Salmon g	222	45	61.6	10	1	AAW10411	AAW10411 Luteinisi
150	51	69.9	10	6	AAW88937	AAW88937 Herring g	223	45	61.6	10	1	AAW50222	AAW50222 Gonadotro
151	51	69.9	10	6	AAW88934	AAW88934 Catfish g	224	45	61.6	10	1	AAW60127	AAW60127 Gonadolib
152	51	69.9	10	6	AAO31039	AAO31039 Catfish g	225	45	61.6	10	1	AAW61403	AAW61403 Gonadotro
153	51	69.9	10	6	AAO31038	AAO31038 Herring g	226	45	61.6	10	1	AAW60576	AAW60576 Novel dec
154	51	69.9	10	7	ADD24674	ADD24674 Lamprey 1	227	45	61.6	10	1	AAW70922	AAW70922 Luteinisi
155	51	69.9	10	7	ADD24673	ADD24673 Lamprey 1	228	45	61.6	10	1	AAW90630	AAW90630 Sequence
156	51	68.5	9	2	AAW96783	AAW96783 Lamprey I	229	45	61.6	10	2	AAW15713	AAW15713 Peptide #
157	50	68.5	9	2	AAW96789	AAW96789 Lamprey I	230	45	61.6	10	2	AAW26819	AAW26819 LH releas
158	50	68.5	9	2	AAW96785	AAW96785 Lamprey I	231	45	61.6	10	2	AAW62689	AAW62689 LHR hapt
159	50	68.5	9	2	AAW96787	AAW96787 Lamprey I	232	45	61.6	10	2	AAW91197	AAW91197 LHR pept
160	49	67.1	10	1	AAW50840	AAW50840 Sequence	233	45	61.6	10	2	AAW75152	AAW75152 Gonadotro
161	49	67.1	10	1	AAW50512	AAW50512 Sequence	234	45	61.6	10	2	AAW86845	AAW86845 Gonadolib
162	49	67.1	10	1	AAW50513	AAW50513 Sequence	235	45	61.6	10	2	AAW21368	AAW21368 Gonadolib
163	49	67.1	10	2	AAW96804	AAW96804 Lamprey I	236	45	61.6	10	2	AAW21368	AAW21368 Gonadolib
164	49	67.1	10	5	AAE15694	AAE15694 Lamprey 1	237	45	61.6	10	2	AAW97757	AAW97757 Seabream
165	49	67.1	10	7	ADD24675	ADD24675 Lamprey 1	238	45	61.6	10	2	AAW65201	AAW65201 Luteinisi
166	48.5	66.4	13	2	AAW25899	AAW25899 GnRH anal	239	45	61.6	10	2	AAW65203	AAW65203 Luteinisi
167	48	65.8	9	2	AAW96777	AAW96777 Lamprey I	240	45	61.6	10	2	AAW45642	AAW45642 Luteinisi
168	48	65.8	9	2	AAW96775	AAW96775 Lamprey I	241	45	61.6	10	2	AAW16294	AAW16294 8-Lys(COC
169	48	65.8	10	2	AAW75159	AAW75159 Lamprey G	242	45	61.6	10	2	AAW04612	AAW04612 Lutenzin
170	48	65.8	10	2	AAW03386	AAW03386 Lys(epsil	243	45	61.6	10	2	AAW76373	AAW76373 Rac GHR
171	48	65.8	10	2	AAW03389	AAW03389 Lys(5), Ly	244	45	61.6	10	2	AAW96765	AAW96765 Luteinisi

245	45	61.6	10	2	AAW47842	AAW47842 pGlu-His-	318	45	61.6	20	2	AAV31178	AAV31178 Ubiquitin
246	45	61.6	10	2	AAW03856	AAW03856 Amino aci	319	45	61.6	20	4	AAW71949	AAW71949 GrnH mixe
247	45	61.6	10	2	AAV31176	AAV31176 Ubiquitin	320	45	61.6	20	4	AAW71948	AAW71948 GrnH dime
248	45	61.6	10	2	AAV50229	AAV50229 Neutroph	321	45	61.6	20	4	AAW71950	AAW71950 GrnH mixe
249	45	61.6	10	2	AAW94890	AAW94890 LHRH pept	322	45	61.6	21	5	AAW07324	AAW07324 Luteinisi
250	45	61.6	10	2	AAW03590	AAW03590 Luteinisi	323	45	61.6	21	5	AAW76113	AAW76113 GrnH-tand
251	45	61.6	10	2	AAV31067	AAV31067 Non-cross	324	45	61.6	21	5	AAW76121	AAW76121 RBA-GrnH-
252	45	61.6	10	2	AAW83360	AAW83360 Luteinisi	325	45	61.6	23	3	AAW20864	AAW20864 GrnH tand
253	45	61.6	10	2	AAW84278	AAW84278 Hormone d	326	45	61.6	25	2	AAW62700	AAW62700 LHRH-cont
254	45	61.6	10	3	AAW82376	AAW82376 Mammalian	327	45	61.6	25	2	AAW62705	AAW62705 LHRH-cont
255	45	61.6	10	3	AAW68566	AAW68566 Luteinisi	328	45	61.6	26	2	AAW62717	AAW62717 LHRH-cont
256	45	61.6	10	3	AAW10930	AAW10930 Gonadorel	329	45	61.6	27	2	AAW62701	AAW62701 LHRH-cont
257	45	61.6	10	3	AAW55061	AAW55061 Luteinisi	330	45	61.6	27	2	AAW62707	AAW62707 LHRH-cont
258	45	61.6	10	3	AAV91197	AAV91197 LHRH targ	331	45	61.6	27	2	AAW74261	AAW74261 SSAL1 TH1
259	45	61.6	10	3	AAW06261	AAW06261 Gonadotro	332	45	61.6	27	3	AAW68574	AAW68574 Peptide i
260	45	61.6	10	3	AAW58136	AAW58136 Native ma	333	45	61.6	27	3	AAW68576	AAW68576 Peptide i
261	45	61.6	10	3	AAV79054	AAV79054 Luteinisi	334	45	61.6	27	3	AAW68567	AAW68567 Peptide i
262	45	61.6	10	3	AAW88576	AAW88576 Gonadotro	335	45	61.6	27	3	AAW68572	AAW68572 Peptide i
263	45	61.6	10	3	AAW15362	AAW15362 Human LHR	336	45	61.6	27	3	AAW68575	AAW68575 Peptide i
264	45	61.6	10	3	AAW08103	AAW08103 Amino aci	337	45	61.6	27	3	AAW68570	AAW68570 Peptide i
265	45	61.6	10	3	AAW20863	AAW20863 Gonadotro	338	45	61.6	27	3	AAW68569	AAW68569 Peptide i
266	45	61.6	10	3	AAW20777	AAW20777 Luteinisi	339	45	61.6	27	3	AAW68609	AAW68609 Peptide i
267	45	61.6	10	3	AAW96084	AAW96084 Gonadotro	340	45	61.6	27	3	AAV91156	AAV91156 MvF1n ep
268	45	61.6	10	4	AAW71947	AAW71947 GrnH mono	341	45	61.6	27	3	AAV91161	AAV91161 Modified
269	45	61.6	10	4	AAW90963	AAW90963 Luteinisi	342	45	61.6	27	3	AAV91162	AAV91162 Modified
270	45	61.6	10	4	AAW73047	AAW73047 Mammalian	343	45	61.6	27	3	AAV91164	AAV91164 Modified
271	45	61.6	10	4	AAW87020	AAW87020 Gonadorel	344	45	61.6	27	3	AAV91171	AAV91171 Modified
272	45	61.6	10	4	AAW49151	AAW49151 Gonadotro	345	45	61.6	27	3	AAV91169	AAV91169 Modified
273	45	61.6	10	4	AAW68693	AAW68693 Luteinisi	346	45	61.6	27	3	AAV91163	AAV91163 Modified
274	45	61.6	10	4	AAW74991	AAW74991 Gonadotro	347	45	61.6	27	3	AAV91167	AAV91167 Modified
275	45	61.6	10	5	AAW06173	AAW06173 Gonadotro	348	45	61.6	27	3	AAV91185	AAV91185 HBV surfa
276	45	61.6	10	5	AAW76103	AAW76103 Gonadotro	349	45	61.6	27	3	AAV91170	AAV91170 Modified
277	45	61.6	10	5	AAW16967	AAW16967 Human Gon	350	45	61.6	27	7	ADD89947	ADD89947 LHRH pept
278	45	61.6	10	5	AAW78822	AAW78822 Salmon Go	351	45	61.6	28	2	AAW62698	AAW62698 LHRH-cont
279	45	61.6	10	5	AAW66082	AAW66082 Gonadotro	352	45	61.6	28	2	AAW62726	AAW62726 LHRH-cont
280	45	61.6	10	5	AAW66087	AAW66087 Gonadotro	353	45	61.6	28	3	AAW68568	AAW68568 Peptide i
281	45	61.6	10	5	AAW66080	AAW66080 Gonadotro	354	45	61.6	28	3	AAW68591	AAW68591 Peptide i
282	45	61.6	10	5	AAW80729	AAW80729 Mammalian	355	45	61.6	28	3	AAV91160	AAV91160 Modified
283	45	61.6	10	5	AAW15663	AAW15663 Mammalian	356	45	61.6	28	3	AAV91158	AAV91158 Modified
284	45	61.6	10	5	AAW31058	AAW31058 Gonadotro	357	45	61.6	28	3	AAV91157	AAV91157 Modified
285	45	61.6	10	5	AAW17139	AAW17139 L-gonadotro	358	45	61.6	28	3	AAV91159	AAV91159 Modified
286	45	61.6	10	6	AAW40003	AAW40003 Human Gon	359	45	61.6	28	3	AAV91194	AAV91194 Modified
287	45	61.6	10	6	AAW29838	AAW29838 Gonadotro	360	45	61.6	28	2	AAW62716	AAW62716 LHRH-cont
288	45	61.6	10	6	AAW29839	AAW29839 Gonadotro	361	45	61.6	29	2	AAW62742	AAW62742 SSAL2 TH2
289	45	61.6	10	6	AAW55039	AAW55039 Gonadotro	362	45	61.6	29	3	AAW68589	AAW68589 Peptide i
290	45	61.6	10	6	AAW73255	AAW73255 Luteinisi	363	45	61.6	29	3	AAW68587	AAW68587 Peptide i
291	45	61.6	10	6	AAW57100	AAW57100 Gonadotro	364	45	61.6	29	3	AAW62706	AAW62706 LHRH-cont
292	45	61.6	10	6	AAW88925	AAW88925 Mammalian	365	45	61.6	30	2	AAW62706	AAW62706 LHRH-cont
293	45	61.6	10	6	AAW88936	AAW88936 Sea bream	366	45	61.6	30	2	AAW62727	AAW62727 LHRH-cont
294	45	61.6	10	6	AAW31056	AAW31056 Russian s	367	45	61.6	30	2	AAW62711	AAW62711 LHRH-cont
295	45	61.6	10	6	AAW31034	AAW31034 Mus muscu	368	45	61.6	30	3	AAW68590	AAW68590 Peptide i
296	45	61.6	10	6	AAW31036	AAW31036 Sea bream	369	45	61.6	30	3	AAW68590	AAW68590 Peptide i
297	45	61.6	10	6	AAW08860	AAW08860 Human gon	370	45	61.6	30	3	AAW68610	AAW68610 Peptide i
298	45	61.6	10	7	AAW24644	AAW24644 Mammalian	371	45	61.6	30	3	AAV91186	AAV91186 Modified
299	45	61.6	10	7	AAW68600	AAW68600 GrnH repe	372	45	61.6	30	3	AAV91191	AAV91191 Modified
300	45	61.6	12	1	AAW80002	AAW80002 Luteinisi	373	45	61.6	30	3	AAV91190	AAV91190 Modified
301	45	61.6	13	1	AAW80005	AAW80005 Luteinisi	374	45	61.6	30	3	AAV91189	AAV91189 Modified
302	45	61.6	16	2	AAW78284	AAW78284 GrnH immu	375	45	61.6	30	3	AAV91188	AAV91188 Modified
303	45	61.6	16	2	AAW78285	AAW78285 GrnH immu	376	45	61.6	30	3	AAV91187	AAV91187 Modified
304	45	61.6	16	3	AAW58141	AAW58141 Gonadotro	377	45	61.6	31	2	AAW62718	AAW62718 LHRH-cont
305	45	61.6	16	5	AAW66086	AAW66086 Amino aci	378	45	61.6	31	2	AAW62710	AAW62710 LHRH-cont
306	45	61.6	16	5	AAW66081	AAW66081 Gonadotro	379	45	61.6	31	2	AAW68592	AAW68592 Peptide i
307	45	61.6	17	2	AAW78283	AAW78283 GrnH immu	380	45	61.6	31	3	AAW68587	AAW68587 Peptide i
308	45	61.6	17	2	AAW78282	AAW78282 GrnH immu	381	45	61.6	31	3	AAW68584	AAW68584 Peptide i
309	45	61.6	17	3	AAW58139	AAW58139 Gonadotro	382	45	61.6	31	3	AAW68579	AAW68579 Peptide i
310	45	61.6	17	3	AAW58140	AAW58140 Gonadotro	383	45	61.6	31	3	AAW68581	AAW68581 Peptide i
311	45	61.6	17	4	AAW99520	AAW99520 Immunomim	384	45	61.6	31	3	AAW68582	AAW68582 Peptide i
312	45	61.6	17	4	AAW99519	AAW99519 Immunomim	385	45	61.6	31	3	AAW68578	AAW68578 Peptide i
313	45	61.6	17	5	AAW66084	AAW66084 Amino aci	386	45	61.6	31	3	AAV91173	AAV91173 Modified
314	45	61.6	17	5	AAW66085	AAW66085 GrnH immu	387	45	61.6	31	3	AAV91181	AAV91181 Modified
315	45	61.6	20	2	AAW47438	AAW47438 Antigenic	388	45	61.6	31	3	AAV91175	AAV91175 Modified
316	45	61.6	20	2	AAV31177	AAV31177 Ubiquitin	389	45	61.6	31	3	AAV91227	AAV91227 Modified
317	45	61.6	20	2	AAV31179	AAV31179 Ubiquitin	390	45	61.6	31	3		

331	45	61.6	31	3	RAY91196	Modified	Ray91196	Modified	464	45	61.6	442	3	RAY96091	Ray96091 GnRH tetr
332	45	61.6	31	3	RAY91174	Modified	Ray91174	Modified	465	44	60.3	10	6	ADA89399	ADA89399 Murtel 90
333	45	61.6	31	3	RAY91176	Modified	Ray91176	Modified	466	44	60.3	12	7	ADC64758	ADC64758 Insulin b
334	45	61.6	31	3	RAY91184	Modified	Ray91184	Modified	467	44	60.3	12	7	ADE15571	ADE15571 Melanoma
335	45	61.6	31	3	RAY91179	Modified	Ray91179	Modified	468	44	60.3	21	5	ABB76120	ABB76120 L7A-GnRH-
336	45	61.6	32	2	AA62709	LHRH-cont	AA62709	LHRH-cont	469	44	60.3	30	2	AA607323	AA607323 Lutetins
337	45	61.6	32	2	AA62702	LHRH-cont	AA62702	LHRH-cont	470	44	60.3	120	4	AA60481	AA60481 Human cel
338	45	61.6	32	2	AA62719	LHRH-cont	AA62719	LHRH-cont	471	44	60.3	517	6	ABP99336	ABP99336 Orthosomy
339	45	61.6	33	2	AA62715	LHRH-cont	AA62715	LHRH-cont	472	44	60.3	518	4	ABP99328	ABP99328 Micromono
400	45	61.6	34	2	AA62704	LHRH-cont	AA62704	LHRH-cont	473	43	58.9	9	5	AA615673	AA615673 Lamprey 1
401	45	61.6	34	3	RAY68594	Peptide 1	RAY68594	Peptide 1	474	43	58.9	9	5	AA615675	AA615675 Lamprey 1
402	45	61.6	34	3	RAY91244	Modified	RAY91244	Modified	475	43	58.9	9	7	ADD24654	ADD24654 Lamprey 1
403	45	61.6	35	3	AA62713	LHRH-cont	AA62713	LHRH-cont	476	43	58.9	9	7	ADD24656	ADD24656 Lamprey 1
404	45	61.6	35	3	RAY68593	Peptide 1	RAY68593	Peptide 1	477	43	58.9	10	2	AA611841	AA611841 Example o
405	45	61.6	35	3	RAY91242	Modified	RAY91242	Modified	478	43	58.9	10	2	AA696801	AA696801 Lamprey 1
406	45	61.6	35	3	RAY91243	Modified	RAY91243	Modified	479	43	58.9	10	2	AA696798	AA696798 Lamprey 1
407	45	61.6	37	2	AA62712	LHRH-cont	AA62712	LHRH-cont	480	43	58.9	10	3	AA68385	AA68385 GnRH-II a
408	45	61.6	37	2	AA62703	LHRH-cont	AA62703	LHRH-cont	481	43	58.9	10	3	AA606263	AA606263 GnRH-II t
409	45	61.6	40	2	AA62699	LHRH-cont	AA62699	LHRH-cont	482	43	58.9	10	5	AA615700	AA615700 Lamprey 1
410	45	61.6	40	3	RAY96085	Cattle go	RAY96085	Cattle go	483	43	58.9	10	7	ADD24678	ADD24678 Lamprey 1
411	45	61.6	42	2	AA62708	LHRH-cont	AA62708	LHRH-cont	484	43	58.9	10	7	ADD24681	ADD24681 Lamprey 1
412	45	61.6	42	3	AA620865	GnRH tand	AA620865	GnRH tand	485	43	58.9	44	4	AA621529	AA621529 Peptide #
413	45	61.6	45	2	AA62721	LHRH-cont	AA62721	LHRH-cont	486	43	58.9	44	4	AB43874	AB43874 Peptide #
414	45	61.6	45	2	AA62720	LHRH-cont	AA62720	LHRH-cont	487	43	58.9	44	4	AA637793	AA637793 Peptide #
415	45	61.6	45	3	RAY68577	Peptide 1	RAY68577	Peptide 1	488	43	58.9	44	4	AB26799	AB26799 Protein #
416	45	61.6	45	3	RAY68573	Peptide 1	RAY68573	Peptide 1	489	43	58.9	44	4	AA677600	AA677600 Human bron
417	45	61.6	45	3	RAY68571	Peptide 1	RAY68571	Peptide 1	490	43	58.9	44	4	AA64862	AA64862 Human liv
418	45	61.6	45	3	RAY91165	Modified	RAY91165	Modified	491	43	58.9	44	4	ABG59253	ABG59253 Human pep
419	45	61.6	45	3	RAY91166	Modified	RAY91166	Modified	492	43	58.9	44	5	ABG46634	ABG46634 Human pep
420	45	61.6	45	3	RAY91172	Modified	RAY91172	Modified	493	43	58.9	196	4	AAU31124	AAU31124 Novel hum
421	45	61.6	45	7	ADD89948	LHRH pept	ADD89948	LHRH pept	494	43	58.9	246	4	AAU53737	AAU53737 Propionib
422	45	61.6	45	7	ADD89949	LHRH pept	ADD89949	LHRH pept	495	43	58.9	246	6	ABM50256	ABM50256 Propionib
423	45	61.6	46	2	AA62728	LHRH-cont	AA62728	LHRH-cont	496	43	58.9	882	5	AB48651	AB48651 Listeria
424	45	61.6	46	3	RAY68595	Peptide 1	RAY68595	Peptide 1	497	43	58.9	1707	4	ABG07400	ABG07400 Novel hum
425	45	61.6	46	3	RAY91195	Inv epit	RAY91195	Inv epit	498	42	57.5	10	2	AA616390	AA616390 Gonadotro
426	45	61.6	47	2	AA62723	LHRH-cont	AA62723	LHRH-cont	499	42	57.5	10	2	AA622390	AA622390 Gonadotro
427	45	61.6	47	3	RAY68583	Peptide 1	RAY68583	Peptide 1	500	42	57.5	10	2	AA676381	AA676381 Rat modif
428	45	61.6	47	3	RAY68586	Peptide 1	RAY68586	Peptide 1							
429	45	61.6	47	3	RAY91183	Inv epit	RAY91183	Inv epit							
430	45	61.6	47	3	RAY91180	Inv epit	RAY91180	Inv epit							
431	45	61.6	48	2	AA62729	LHRH-cont	AA62729	LHRH-cont							
432	45	61.6	48	2	AA62725	LHRH-cont	AA62725	LHRH-cont							
433	45	61.6	49	2	AA62724	LHRH-cont	AA62724	LHRH-cont							
434	45	61.6	49	2	AA62724	LHRH-cont	AA62724	LHRH-cont							
435	45	61.6	49	3	RAY68580	Peptide 1	RAY68580	Peptide 1							
436	45	61.6	49	3	RAY68585	Peptide 1	RAY68585	Peptide 1							
437	45	61.6	49	3	RAY91177	Modified	RAY91177	Modified							
438	45	61.6	49	3	RAY91178	Modified	RAY91178	Modified							
439	45	61.6	50	4	AAU56318	Propionib	AAU56318	Propionib							
440	45	61.6	50	6	ABM52837	Propionib	ABM52837	Propionib							
441	45	61.6	51	2	AA62714	LHRH-cont	AA62714	LHRH-cont							
442	45	61.6	54	2	AA62722	LHRH-cont	AA62722	LHRH-cont							
443	45	61.6	63	4	AAU64539	Propionib	AAU64539	Propionib							
444	45	61.6	63	6	ABM61058	Propionib	ABM61058	Propionib							
445	45	61.6	253	2	AA61181	Plasmid p	AA61181	Plasmid p							
446	45	61.6	253	2	AA61181	Plasmid p	AA61181	Plasmid p							
447	45	61.6	253	2	AA61180	Plasmid p	AA61180	Plasmid p							
448	45	61.6	253	2	AA61182	Plasmid p	AA61182	Plasmid p							
449	45	61.6	253	2	AA61184	Plasmid p	AA61184	Plasmid p							
450	45	61.6	256	2	AA61177	Plasmid p	AA61177	Plasmid p							
451	45	61.6	257	2	AA61178	Plasmid p	AA61178	Plasmid p							
452	45	61.6	257	2	AA61179	Plasmid p	AA61179	Plasmid p							
453	45	61.6	257	2	AA61183	Plasmid p	AA61183	Plasmid p							
454	45	61.6	263	2	AA61185	Plasmid p	AA61185	Plasmid p							
455	45	61.6	323	2	AA61187	Plasmid p	AA61187	Plasmid p							
456	45	61.6	343	4	AAU62051	Propionib	AAU62051	Propionib							
457	45	61.6	343	6	ABM58570	Propionib	ABM58570	Propionib							
458	45	61.6	398	3	RAY96090	BHV-1 tru	RAY96090	BHV-1 tru							
459	45	61.6	399	3	RAY96093	BHV-1 tru	RAY96093	BHV-1 tru							
460	45	61.6	411	3	RAY96089	GnRH tetr	RAY96089	GnRH tetr							
461	45	61.6	437	7	ADC00344	Enterchae	ADC00344	Enterchae							
462	45	61.6	437	7	ADC00714	Enterchae	ADC00714	Enterchae							
463	45	61.6	439	7	ADC00434	Enterchae	ADC00434	Enterchae							

ALIGNMENTS

RESULT 1
 AAP50612
 ID AAP50612 standard; peptide; 10 AA.
 XX AAP50612;
 AC AAP50612;
 XX
 XX 24-OCT-2003 (revised)
 DT 25-MAR-2003 (revised)
 DT 26-SEP-1991 (first entry)
 XX
 DE Sequence of peptide with gonadotropin releasing activity.
 XX
 KW Hormone; gonadotropin releasing activity;
 KW hypogonadotropic hypogonadism therapy.
 XX
 OS Gallus gallus.
 XX
 XX Key' Location/Qualifiers
 FH Modified-site 1
 FT /label= pyro-Glu
 FT Modified-site 10
 FT /label= Gly-NH2
 XX
 PN US4540513-A.
 XX
 PD 10-SEP-1985.
 XX
 PF 25-SEP-1984; 84US-00654289.
 XX
 PR 25-SEP-1984; 84US-00654289.
 XX

CC thyrotropin- or gonadotropin-dependent adenomas, or any pituitary
 CC adenoma. In addition the proteins can be used to kill lymphocytes
 CC involved in a wide range of autoimmune diseases or to destroy virus-
 CC infected cells. (Updated on 17-OCT-2003 to standardise OS field)

XX SQ Sequence 10 AA;
 Query Match 100.0%; Score 73; DB 2; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EHWSHGWYPG 10
 |||||
 Db 1 EHWSHGWYPG 10

RESULT 4
 AAW96768
 ID AAW96768 standard; peptide; 10 AA.
 AC AAW96768;
 XX
 XX 19-APR-1999 (first entry)
 DT
 DE Chicken luteinising hormone releasing hormone (c-LHRH-II).
 XX
 XX Lamprey III luteinising hormone releasing hormone; 1-LHRH-III;
 XX mammalian FSH-releasing factor; serum FSH level; LH; luteinising hormone;
 KW agonist; follicle-stimulating hormone; FSH; vertebrate; fertility;
 KW antagonist; spermatogenesis inhibition; follicular development;
 KW ovarian development.
 XX
 OS Synthetic.
 OS Gallus sp.

XX FH Key Location/Qualifiers
 XX FT Modified-site 1 /note= "pyroglutamic acid"
 FT
 FT Modified-site 10 /note= "C-terminal amide attached to this residue"
 FT
 FT
 XX WO9855136-A1.
 XX
 XX 10-DEC-1998.
 PD
 XX 03-JUN-1998; 98WO-US011512.
 PF
 XX 04-JUN-1997; 97US-00869153.
 PR
 XX (LOU) UNIV LOUISIANA STATE & AGRIC & MECH COLL.
 PA
 XX Mccann SM, Yu WH;
 PI
 XX WPI; 1999-070238/06.
 DR
 XX Selectively altering levels of follicle stimulating hormone in
 XX vertebrates - using lamprey luteinising hormone releasing-hormone and its
 PT derivatives, for increasing or reducing fertility.
 PT
 XX Disclosure; Page 5; 40pp; English.
 PS
 XX

CC The present sequence represents chicken luteinising hormone releasing
 CC hormone (c-LHRH-II). The specification describes a peptide isolated from
 CC Lamprey, 1-LHRH-III, that is identical with, or very similar to, the
 CC mammalian follicle-stimulating hormone (FSH)-releasing factor. 1-LHRH-III
 CC causes a selective change in serum FSH levels but not a proportional
 CC change in serum levels of LH (luteinising hormone). The peptide and its
 CC agonists (see AAW96769-95) can be used to increase the level of FSH in
 CC vertebrates, and so are used to increase fertility, in males or females,
 CC particularly in humans but also in other mammals and fish. Antagonists of
 CC the peptide (see AAW96796-104) can be used to decrease the release of
 CC FSH, and so are used to decrease fertility by inhibiting spermatogenesis
 CC and follicular/ovarian development

XX SQ Sequence 10 AA;
 Query Match 100.0%; Score 73; DB 2; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 EHWSHGWYPG 10
 |||||
 Db 1 EHWSHGWYPG 10

RESULT 5
 AAW84295
 ID AAW84295 standard; peptide; 10 AA.
 AC AAW84295;
 XX
 XX 17-MAR-1999 (first entry)
 DT
 DE Hormone domain of gonadotropin releasing hormone (GnRH).
 XX
 XX Hormone domain; gonadotropin releasing hormone; GnRH;
 KW 1-luteinising hormone releasing hormone; LHRH-III; estrogen;
 KW testosterone; luteinising hormone; chorionic gonadotropin;
 KW follicle stimulating hormone; melanocyte-stimulating hormone; estradiol;
 KW dopamine; somatostatin; lytic peptide; long-term contraception;
 KW sterilisation; human; fish; insect; hormone-dependent tumour;
 KW hormone-related disease; autoimmune disorder; treatment.
 XX
 OS Synthetic.
 OS Gallus gallus.

XX FH Key Location/Qualifiers
 XX FT Modified-site 1 /note= "pyroglutamic acid"
 FT
 FT Modified-site 10 /note= "pyroglutamic acid"
 FT
 XX WO9842364-A1.
 XX
 XX 01-OCT-1998.
 PD
 XX 26-MAR-1998; 98WO-US006013.
 PF
 XX 27-MAR-1997; 97US-0041009P.
 PR
 XX 04-JUN-1997; 97US-00869153.
 PR
 XX 03-SEP-1997; 97US-0057456P.
 XX
 XX (DEME-) DEMETER BIOTECHNOLOGIES LTD.
 PA (LOU) UNIV LOUISIANA STATE & AGRIC.
 PA
 XX Enright FM, Jaynes JM, Hansel WB, Koorse KL, Foil LD;
 PI
 XX WPI; 1999-070063/06.
 DR
 XX New hormone-lytic peptide compounds - used for long-term contraception or
 XX sterilisation, for killing insects or virally infected cells or for
 PT treating tumours or autoimmune disorders.
 PT
 XX Example 14; Page 43; 48pp; English.
 PS
 XX The present sequence represents a hormone domain of gonadotropin
 CC releasing hormone (GnRH). The specification also describes peptides
 CC derived from 1-luteinising hormone releasing hormone (LHRH)-III,
 CC estrogen, testosterone, luteinising hormone, chorionic gonadotropin,
 CC follicle stimulating hormone, melanocyte-stimulating hormone, estradiol,
 CC dopamine, somatostatin, and analogues of these hormones. The compounds
 CC used in a compound, in conjunction with a lytic peptide. The compounds
 CC can be used for specifically inhibiting cells that are driven by or are
 CC dependent on specific ligand interactions. They can be used for providing
 CC long-term contraception or sterilisation in humans, domesticated or wild
 CC mammals, birds, reptiles, amphibians, bony fish, cartilaginous fish,
 CC jawless fish, and invertebrates such as insects or molluscs. They can
 CC also be used for inhibiting or killing malignant and non-malignant

CC hormone-dependent tumours, for treating other hormone-related diseases,
 CC for selectively killing virally infected cells or for treating autoimmune
 CC disorders

SQ Sequence 10 AA;

Query Match 100.0%; Score 73; DB 2; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10

Db 1 EHWSHGWYPG 10

RESULT 6

AAAY88386
 ID AAY88386 standard; peptide; 10 AA.

XX

AC AAY88386;

XX 25-JUL-2000 (first entry)

XX GnRH-II analogue peptide #2.

XX Gonadotrophin-releasing hormone; GnRH; differentiation modulator;
 KW osteoporosis; bone metabolism; bone repair; osteogenesis imperfecta;
 KW osteomalacia; bone loss; fracture healing.

XX Synthetic.

XX GB2343182-A.

XX 03-MAY-2000.

XX 27-OCT-1998; 98GB-00023515.

XX 27-OCT-1998; 98GB-00023515.

XX (FERR) FERRING BV.

XX Akinsanya K, Hayward A, Qi S;

XX WPI; 2000-331495/29.

XX Composition containing gonadotropin-releasing hormone II peptide, useful
 PT e.g. for treating osteoporosis and for accelerating bone repair.

XX Claim 3; Page 13; 16pp; English.

XX This sequence represents a gonadotrophin-releasing hormone (GnRH) II-
 CC related peptide. GnRH is released by the hypothalamus and acts on the
 CC pituitary to stimulate the release of luteinizing hormone and follicle
 CC stimulating hormone. GnRH is capable of modulating the differentiation of
 CC bone precursor cells, and inducing the expansion of osteoblast
 CC populations. The peptide can be used in compositions for treating
 CC osteoporosis (and other diseases of bone metabolism) and for the
 CC acceleration of bone repair. The compositions have osteogenic activity.
 CC The compositions are used to treat or prevent osteoporosis, other
 CC disorders of bone metabolism (e.g. osteogenesis imperfecta, osteomalacia
 CC or bone loss resulting from prolonged periods of immobility), and to
 CC accelerate bone growth and repair (e.g. for healing fractures)

XX Sequence 10 AA;

Query Match 100.0%; Score 73; DB 3; Length 10;

Best Local Similarity 100.0%; Pred. No. 0.00018;

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10

Db 1 EHWSHGWYPG 10

RESULT 7

AAAB06262

ID AAB06262 standard; peptide; 10 AA.

XX

AC AAB06262;

XX 16-OCT-2000 (first entry)

XX Gonadotrophin releasing hormone homologue GnRH-II.

XX GnRH-II; gonadotrophin releasing hormone; GnRH;
 KW luteinising hormone releasing; hormone; LHRH; osteogenesis;
 KW prostatic epithelial cell proliferation; bone disorder;
 KW prostate disorder.

XX Unidentified.

XX Key Location/Qualifiers

XX Modified-site 1

XX /note= "Pyroglutamic acid"

XX GB23444287-A.

XX 07-JUN-2000.

XX 03-DEC-1998; 98GB-00026662.

XX 03-DEC-1998; 98GB-00026662.

XX (FERR) FERRING BV.

XX Akinsanya K, Hayward A, Qi S;

XX WPI; 2000-378694/33.

XX Pharmaceutical composition for treating bone and prostate disorders
 PT comprises a peptide microencapsulated within a biodegradable polymer.

XX Claim 2; Page 11; 13pp; English.

XX The present sequence is GnRH-II, a peptide with homology to gonadotrophin
 CC releasing hormone (GnRH, otherwise known as luteinising hormone releasing
 CC hormone, LHRH). GnRH-II influences osteogenesis and modulates the
 CC proliferation of prostatic epithelial cells and so may be useful for
 CC treating human disease associated with abnormal bone and prostate growth.
 CC A biodegradable polymer is used to hold the peptide in a depot, from
 CC which the peptide is released into the systemic circulation at a
 CC controlled rate

XX Sequence 10 AA;

Query Match 100.0%; Score 73; DB 3; Length 10;

Best Local Similarity 100.0%; Pred. No. 0.00018;

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10

Db 1 EHWSHGWYPG 10

RESULT 8

AAAY79309

ID AAY79309 standard; peptide; 10 AA.

XX

AC AAY79309;

XX 12-SEP-2003 (revised)

XX 18-JUL-2000 (first entry)

XX Chicken GnRH-II.

XX Gonadotropin releasing hormone II; chicken; cGnRH-II; GnRH-II.

XX OS Gallus gallus.
 XX PN WO200017336-A1.
 XX PD 30-MAR-2000.
 XX PF 17-SEP-1999; 99WO-KR000559.
 XX PR 19-SEP-1998; 98KR-00038835.
 XX PA (LEES/) LEE S.
 XX PI Lee SJ;
 XX DR WPI; 2000-283569/24.
 XX PT New DNA cassette comprising tandem repeating units of a nucleotide
 PT sequence encoding a biologically active peptide and a linker peptide used
 PT for producing the biologically active peptide.
 XX PS Disclosure; Page 8; 32pp; English.
 XX CC The present sequence is that of chicken gonadotropin releasing hormone II
 CC (cGnRH-II). The present invention provides a means of producing
 CC biologically active peptides, such as cGnRH-II, by recombinant expression
 CC in microbial hosts. This involves the construction of a DNA cassette (see
 CC A294528) comprising tandem repeating units of a nucleotide sequence
 CC encoding the peptide and a linker. The DNA cassette is incorporated into
 CC a vector, and the peptide-linker multimer is expressed in transformed
 CC microbial cells. The linkers are designed to include sites cleavable by a
 CC protease or chemical agent. Cleavage of the expressed multimer using the
 CC protease or chemical agent provides the biologically active peptide.
 CC (Updated on 12-SEP-2003 to standardise OS field)
 XX SQ Sequence 10 AA;
 Query Match 100.0%; Score 73; DB 3; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 DB |||||
 1 EHWSHGWYPG 10
 RESULT 9
 AAB90962 ID AAB90962 standard; peptide; 10 AA.
 XX AC AAB90962;
 XX DT 22-JUN-2001 (first entry)
 XX DE Luteinising hormone releasing hormone (LH-RH) related peptide SEQ ID:136.
 XX KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
 KW blood component; modification; succinimidyl; maleimido group; amino;
 KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
 XX OS Homo sapiens.
 OS Synthetic.
 XX PN WO200069900-A2.
 XX PD 23-NOV-2000.
 XX PF 17-MAY-2000; 2000WO-US013576.
 XX PR 17-MAY-1999; 99US-0134406P.
 PR 10-SEP-1999; 99US-0153406P.
 PR 15-OCT-1999; 99US-0159783P.
 XX

PA (CONJ-) CONJUCHEM INC.
 XX Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
 XX WPI; 2001-112059/12.
 XX PT Modifying and attaching therapeutic peptides to albumin prevents
 PT peptidase degradation, useful for increasing length of in vivo activity.
 XX PS Disclosure; Page 235; 733pp; English.
 XX CC The present invention describes a modified therapeutic peptide (I)
 CC comprising a therapeutically active amino acid region (III) and a
 CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
 CC a less therapeutically active amino acid region (IV), which covalently
 CC bonds with amino/hydroxyl/thiol groups on blood components to form a
 CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
 CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
 CC factors and neurotransmitters, to protect them from peptidase activity in
 CC vivo for the treatment of various disorders. Endogenous therapeutic
 CC peptides are not suitable as drug candidates as they require frequent
 CC administration due to rapid degradation by peptidases in the body.
 CC Modifying and attaching therapeutic peptides to albumin prevents or
 CC reduces the action of peptidases to increase length of activity (half
 CC life) and specificity as bonding to large molecules decreases
 CC intracellular uptake and interference with physiological processes.
 CC AAB90829 to AAB92441 represent peptides which can be used in the
 CC exemplification of the present invention
 XX SQ Sequence 10 AA;
 Query Match 100.0%; Score 73; DB 4; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 DB |||||
 1 EHWSHGWYPG 10
 RESULT 10
 ABB06175 ID ABB06175 standard; peptide; 10 AA.
 XX AC ABB06175;
 XX DT 13-MAY-2002 (first entry)
 XX DE Gonadotropin-releasing hormone precursor peptide related peptide #3.
 XX KW Gonadotropin-releasing hormone precursor peptide; GnRH; octopus;
 KW Gonadotropin-releasing hormone; signal processing mechanism; drug;
 KW nerve system; pesticide; cardiant.
 XX OS Synthetic.
 XX FH Key Location/Qualifiers
 FT Modified-site 1/note= "pyroglutamic acid"
 FT Modified-site 10/note= "amidated"
 XX PN WO200202628-A1.
 XX PD 10-JAN-2002.
 XX PF 29-JUN-2001; 2001WO-JP005607.
 XX PR 30-JUN-2000; 2000JP-00198430.
 XX PA (SUNR) SUNTORY LTD.
 XX PI Minakata H, Iwakoshi E, Kuroda K;

XX WPI; 2002-154729/20.
 XX
 XX New octopus brain-originated peptide with gonadotropin-releasing hormone
 PT (GnRH) activity, useful in studying signal processing mechanism in nerve
 PT system and in developing pesticides and drugs, and breeding and farming
 PT young octopuses.
 XX
 XX Disclosure; Fig 5; 45pp; Japanese.
 XX
 XX The present invention describes a peptide with gonadotropin-releasing
 CC hormone (GnRH) activity comprising the sequence: pGlu-Zaa-Zaa-His-Zaa-Ser
 CC -Zaa-Zaa-Zaa-Pro-Gly-NH₂ (I), where pGlu = pyroglutamic acid and Zaa
 CC = any amino acid. Peptides with GnRH activity also have cardiant
 CC activity. The peptides and their analogues can be used in studying signal
 CC processing mechanisms in the nerve system and in developing pesticides
 CC and drugs for e.g. potentiating heart beat and breeding and farming young
 CC octopuses. The present sequence represents a peptide which is used in the
 CC present invention
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 100.0%; Score 73; DB 5; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 Db 1 EHWSHGWYPG 10
 RESULT 11
 AAEE15666
 ID AAEE15666 standard; peptide; 10 AA.
 AC AAEE15666;
 XX
 XX 12-MAR-2002 (first entry)
 DT
 XX
 XX Chicken luteinizing hormone releasing hormone peptide.
 DE
 XX Chicken; Follicle stimulating hormone; FSH-releasing factor; c-LHRH;
 KW luteinizing hormone releasing hormone; gonadotropin releasing hormone;
 KW GnRH; fertility.
 XX
 XX Gallus sp.
 OS
 XX
 XX Key Location/Qualifiers
 FH Modified-site 1
 FT /note= "Pyroglutamic acid; This residue is given as Xaa
 FT in the sequence shown as SEQ ID NO: 5 in the sequence
 FT listing"
 FT Modified-site 10
 FT /note= "C-terminal amide; This residue is given as Xaa in
 FT the sequence shown as SEQ ID NO: 5 in the sequence
 FT listing"
 XX
 XX US6300471-B1.
 PN
 XX
 XX 09-OCT-2001.
 PD
 XX
 XX 03-JUN-1998; 98US-00089522.
 PF
 XX
 XX 04-JUN-1997; 97US-0092112P.
 PR
 XX
 XX (LOU) UNIV LOUISIANA STATE & AGRIC & MECH COLL.
 PA
 XX
 XX Mccann SM, Yu WH;
 PI
 XX
 XX WPI; 2002-016917/02.
 DR
 XX
 XX Altering the secretion level of follicle-stimulating hormone in a
 PT vertebrate mammal comprises using peptide 1-luteinizing hormone releasing

PT hormone-III.
 XX
 XX Disclosure; Col 3-4; 17pp; English.
 XX
 XX The patent discloses compositions and methods for selectively stimulating
 CC or inhibiting the release of follicle stimulating hormone (FSH) from the
 CC anterior lobe of pituitary gland. The method involves administration of a
 CC peptide-1-luteinizing hormone releasing hormone (LHRH)-III, a potent FSH-
 CC releasing factor. LHRH is also called as gonadotropin releasing hormone
 CC (GnRH). LHRH and its agonists may be used to enhance fertility.
 CC Antagonists to LHRH-III may be used to inhibit fertility. The method is
 CC used for altering the secretion level of FSH in a vertebrate animal e.g.
 CC a mammal such as a male and female human. The present sequence is chicken
 XX luteinizing hormone releasing hormone (c-LHRH) peptide
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 100.0%; Score 73; DB 5; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 Db 1 EHWSHGWYPG 10
 RESULT 12
 ADA88928
 ID ADA88928 standard; peptide; 10 AA.
 XX
 XX ADA88928;
 AC
 XX 20-NOV-2003 (first entry)
 DT
 XX
 XX Chicken II gonadotropin releasing hormone.
 DE
 XX gonadotropin releasing hormone; GnRH; muGnRH I; muGnRH II; Indian Murrel;
 KW fish; fish breeding; gonadotropin.
 KW
 XX Gallus sp.
 OS
 XX
 XX Key Location/Qualifiers
 FH Modified-site 1
 FT /note= "pyroglutamic acid"
 FT Modified-site 10
 FT /note= "amidated"
 FT
 XX WO2003064460-A2.
 PN
 XX
 XX 07-AUG-2003.
 PD
 XX
 XX 10-JAN-2003; 2003WO-IN000015.
 PF
 XX
 XX 30-JAN-2002; 2002US-0353041P.
 PR
 XX
 XX (COUL) COUNCIL SCI & IND RES.
 PA
 XX
 XX Chatterjee A, Ray P, Dasgupta S, Bhattacharaya S, Pasha S;
 PI
 XX WPI; 2003-663464/62.
 DR
 XX
 XX New gonadotropin releasing hormones muGnRH I and muGnRH II useful for
 PT induced breeding in fishes.
 PT
 XX
 XX Disclosure; Fig 1; 23pp; English.
 PS
 XX
 XX The present invention describes gonadotropin releasing hormones (GnRH)
 CC muGnRH I (ADA88923) and muGnRH II (ADA88924), isolated from Indian Murrel
 CC fish. They can be used for inducing breeding in fishes both in
 CC combination and alone by activating production of gonadotropin. The GnRH
 CC peptide muGnRH I and muGnRH II have the amino acid sequences Gln-His-Trp-
 CC Ser-Ala-Trp-Arg-Leu-Pro-Gly (I) and Gln-His-Trp-Ser-Trp-Gly-Ile-Leu-Pro-
 CC Gly (II), respectively. Also described: (1) isolating and sequencing

CC muGnRH I and muGnRH II; and (2) inducing breeding in fishes using GnRH
 CC comprising exposing fishes to GnRH to help release gonadotropin, and
 CC inducing breeding in fishes using the gonadotropin. The present sequence
 CC represents a GnRH amino acid sequence given in the exemplification of the
 CC present invention.

XX
 XX Sequence 10 AA;
 SQ
 Query Match 100.0%; Score 73; DB 6; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Qy 1 EHWSHGWYPG 10
 |||||
 Db 1 EHWSHGWYPG 10
 |||||

RESULT 13
 AAO31042
 ID AAO31042 standard; peptide; 10 AA.

XX AC AAO31042;
 XX DT 06-OCT-2003 (first entry)
 XX DE Chicken gonadotropin releasing hormone (cGnRH-II) peptide.
 XX Gonadotropin releasing hormone; GnRH-I; GnRH-II; T-cell related disease;
 KW congenital immune deficiency; acquired immune deficiency; hyperreactive;
 KW psychopathology; neoplastic disease; autoimmune disease; neuroprotective;
 KW pathophysiological disease; neurological disease; allograft rejection;
 KW graft-versus-host disease; neurologic disease; immunosuppressive;
 KW cytostatic; anti-HIV; allergic; gene therapy; chicken.
 XX Gallus gallus.

XX Key Location/Qualifiers
 XX Modified-site 1
 FT Modified-site /note= "Pyroglutamic acid"
 FT Modified-site 10
 FT Modified-site /note= "C-terminal amide"

XX WO2003051272-A2.
 XX 26-JUN-2003.
 XX 17-DEC-2002; 2002WO-IL001014.
 XX 17-DEC-2001; 2001IL-00147138.
 XX (YEDA) YEDA RES & DEV CO LTD.
 XX Levite M, Koch Y;
 XX WPI; 2003-523498/49.

XX Regulating activity of a T-cell population by providing a molecule that
 XX is capable of modifying an activity or expression level of GnRH-I or GnRH
 XX -II receptor to regulate GnRH-I or a GnRH-II mediated activity of the T-
 XX cell population.

XX Disclosure; Page 41; 177pp; English.
 XX The invention relates to a method for regulating activity of a T-cell
 XX population. The method comprising providing to the T-cell population a
 XX molecule that is selected to be capable of modifying an activity or
 XX expression level of a gonadotropin releasing hormone (GnRH)-I or a GnRH-
 XX II receptor to regulate GnRH-I or a GnRH-II mediated activity of a T-cell
 XX population. The method is useful for treating or preventing a T-cell
 XX related disease or condition characterised by abnormal T-cell activity,
 XX e.g. congenital immune deficiencies, acquired immune deficiencies,
 XX infection, psychopathology or neoplastic disease, autoimmune, allergic,
 XX hyperreactive, pathophysiological and neurological diseases and

CC conditions, graft-versus-host disease, or allograft rejections. The
 CC invention is useful in gene therapy. The present sequence is chicken
 CC gonadotropin releasing hormone (cGnRH-II) peptide
 XX
 XX Sequence 10 AA;

Query Match 100.0%; Score 73; DB 6; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Qy 1 EHWSHGWYPG 10
 |||||
 Db 1 EHWSHGWYPG 10
 |||||

RESULT 14
 AAO31057
 ID AAO31057 standard; peptide; 10 AA.

XX AC AAO31057;
 XX DT 06-OCT-2003 (first entry)
 XX DE African catfish gonadotropin releasing hormone (GnRH-II) peptide.
 XX Gonadotropin releasing hormone; GnRH-I; GnRH-II; T-cell related disease;
 KW congenital immune deficiency; acquired immune deficiency; hyperreactive;
 KW psychopathology; neoplastic disease; autoimmune disease; neuroprotective;
 KW pathophysiological disease; neurological disease; allograft rejection;
 KW graft-versus-host disease; neurologic disease; immunosuppressive;
 KW cytostatic; anti-HIV; allergic; gene therapy; catfish.

XX Clarias gariepinus.

XX WO2003051272-A2.
 XX 26-JUN-2003.
 XX 17-DEC-2002; 2002WO-IL001014.
 XX 17-DEC-2001; 2001IL-00147138.
 XX (YEDA) YEDA RES & DEV CO LTD.

XX Levite M, Koch Y;
 XX WPI; 2003-523498/49.
 XX Regulating activity of a T-cell population by providing a molecule that
 XX is capable of modifying an activity or expression level of GnRH-I or GnRH
 XX -II receptor to regulate GnRH-I or a GnRH-II mediated activity of the T-
 XX cell population.

XX Disclosure; Page 166; 177pp; English.

XX The invention relates to a method for regulating activity of a T-cell
 XX population. The method comprising providing to the T-cell population a
 XX molecule that is selected to be capable of modifying an activity or
 XX expression level of a gonadotropin releasing hormone (GnRH)-I or a GnRH-
 XX II receptor to regulate GnRH-I or a GnRH-II mediated activity of a T-cell
 XX population. The method is useful for treating or preventing a T-cell
 XX related disease or condition characterised by abnormal T-cell activity,
 XX e.g. congenital immune deficiencies, acquired immune deficiencies,
 XX infection, psychopathology or neoplastic disease, autoimmune, allergic,
 XX hyperreactive, pathophysiological and neurological diseases and
 XX conditions, graft-versus-host disease, or allograft rejections. The
 XX invention is useful in gene therapy. The present sequence is catfish
 XX gonadotropin releasing hormone (GnRH-II) peptide

XX Sequence 10 AA;

Query Match 100.0%; Score 73; DB 6; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.00018;

Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
 |||||
 Db 1 EHWSHGWYPG 10

RESULT 15
 ADD24647
 ID ADD24647 standard; peptide; 10 AA.
 XX
 AC ADD24647;
 XX
 DT 15-JAN-2004 (first entry)
 XX
 DE Chicken luteinising hormone releasing hormone, c-LHRH-II.
 XX
 KW luteinising hormone releasing hormone; LHRH;
 KW follicle stimulating hormone releasing factor; FSH-RP; antiinfertility;
 KW 1-LHRH-III; luteinising hormone; fertility; ovarian follicle; ovulation;
 KW litter size; chicken.
 XX
 OS Gallus gallus.
 XX
 FH Key Location/Qualifiers
 FT Modified-site 1
 FT /label= OTHER
 FT /note= "Pyroglutamic acid"
 FT Modified-site 10
 FT /label= OTHER
 FT /note= "Gly is amidated"
 XX
 PN US2002165159-A1.
 XX
 PD 07-NOV-2002.
 XX
 XX 28-MAR-2002; 2002US-00109331.
 XX
 PR 04-JUN-1997; 97US-00921112P.
 PR 03-JUN-1998; 98WO-US011512.
 PR 11-MAY-1999; 99US-00297989.
 XX
 XX (LOU) UNIV LOUISIANA STATE & AGRIC & MECH COLL.
 XX
 XX McCann SM, Yu WH;
 XX
 XX WPI; 2003-810634/76.
 DR
 PT Altering level of secretion of follicle-stimulating hormone in vertebrate
 PT for enhancing or inhibiting fertility in mammals, by administering 1-
 PT luteinizing hormone releasing hormone peptide or its modulator peptide.
 XX
 XX Disclosure; SEQ ID NO 5; 19pp; English.

The invention relates to a method of altering the level of secretion of follicle-stimulating hormone (FSH) in a vertebrate animal, involving administering a peptide to cause a selective change in serum FSH level, but does not cause change in serum luteinising hormone (LH) level of animal. The peptide is chosen from 1-luteinising hormone releasing hormone (LHRH)-III agonist peptide, 1-LHRH-III superagonist peptide, 1-LHRH-III antagonist peptide, chosen from ADD24648 - ADD24683. The peptides are based on the lamprey 1-LHRH-III which has been shown to be an FSH-releasing factor (FSH-RH). Also included is a pharmaceutical composition comprising a peptide, which causes a selective change in serum FSH level, but does not cause change in serum luteinising hormone (LH) level of animal. The method is useful for altering the level of secretion of FSH in a vertebrate animal, preferably mammal or human (male or female), and for increasing or decreasing fertility of the vertebrate. The method is also applicable to other vertebrates to increase fertility, for e.g. sheep, cattle, pigs, chickens, turkeys, channel catfish, tilapia and koi. Treatment of farm animals with FSH-releasing factor leads to maturation of increased numbers of ovarian follicles and subsequent ovulations, leading to increased litter sizes. The present sequence is an

CC LHRH shown not to be an FSH-releasing factor.
 XX
 SQ Sequence 10 AA;
 Query Match 100.0%; Score 73; DB 7; Length 10;
 Best Local Similarity 100.0%; Pred. NO. 0.00018; Indels 0; Gaps 0;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
 |||||
 Db 1 EHWSHGWYPG 10

RESULT 16
 AAY79311
 ID AAY79311 standard; peptide; 12 AA.
 XX
 AC AAY79311;
 XX
 DT 12-SEP-2003 (revised)
 DT 18-JUL-2000 (first entry)
 XX
 DE Chicken gonadotropin releasing peptide II analogue.
 XX
 KW Gonadotropin releasing hormone II; chicken; cGnRH-II; GnRH-II.
 XX
 OS Gallus gallus.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..10
 FT /note= "cGnRH-II"
 FT Peptide 11..12
 FT /note= "linker"
 XX
 PN WO200017336-A1.
 XX
 PD 30-MAR-2000.
 XX
 XX 17-SEP-1999; 99WO-KR000559.
 XX
 PR 19-SEP-1998; 98KR-00038835.
 XX
 XX (LEES/) LEE S.
 XX
 XX Lee SJ;
 XX
 XX WPI; 2000-283569/24.
 DR
 PT New DNA cassette comprising tandem repeating units of a nucleotide
 PT sequence encoding a biologically active peptide and a linker peptide used
 PT for producing the biologically active peptide.
 XX
 XX Example 4; Page 15; 32pp; English.

The present sequence is that of a chicken gonadotropin releasing hormone II (cGnRH-II) analogue comprising cGnRH-II (see AAY79309) and a C-terminal linker-derived Gly-Lys sequence. The analogue is produced by expression of a DNA cassette in a microbial host cell. The DNA cassette comprises tandem repeating units of a nucleotide sequence encoding cGnRH-II and trypsin cleavable linker peptides. The DNA cassette is incorporated into a vector, and the peptide-linker multimer is expressed in transformed microbial cells. Cleavage of the expressed multimer provides the present cGnRH-II analogue. (Updated on 12-SEP-2003 to standardise OS field)

QY 1 EHWSHGWYPG 10
 |||||

Query Match 100.0%; Score 73; DB 3; Length 12;
 Best Local Similarity 100.0%; Pred. NO. 0.00022; Indels 0; Gaps 0;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 1 EHWSHGWYPG 10

RESULT 17
 AAY79310
 ID AAY79310 standard; peptide; 16 AA.
 AC AAY79310;
 XX
 DT 18-JUL-2000 (first entry)
 XX
 DE Linker-chicken GnRH-II-linker peptide.
 XX
 KW Gonadotropin releasing hormone II; chicken; cGnRH-II; GnRH-II.
 XX
 OS Gallus gallus.
 OS Synthetic.
 OS Chimeric.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..3
 FT /note= "linker peptide"
 FT Peptide 4..13
 FT /note= "cGnRH-II"
 FT Peptide 14..16
 FT /note= "linker peptide"
 XX WO200017336-A1.
 XX
 XX 30-MAR-2000.
 XX
 PF 17-SEP-1999; 99WO-KR000559.
 XX
 PR 19-SEP-1998; 98KR-00038835.
 XX
 PA (LEES/) LEE S.
 XX
 PI Lee SJ;
 XX
 DR WPI; 2000-283569/24.
 DR N-PSDB; AAZ94529.
 XX
 New DNA cassette comprising tandem repeating units of a nucleotide sequence encoding a biologically active peptide and a linker peptide used for producing the biologically active peptide.
 XX
 PS Example 1; Page 9; 32pp; English.
 XX
 CC The present sequence is that of a peptide comprising chicken gonadotropin releasing hormone II (cGnRH-II) flanked by 2 trypsin cleavable linker peptides. A DNA fragment (see AAZ94529) encoding the peptide was designed and used in the construction of a claimed DNA cassette (see AAZ94529) encoding 4 tandem repeats of cGnRH-II-linker units. The present invention provides a means of producing biologically active peptides, such as cGnRH -II, by recombinant expression in microbial hosts. This involves the construction of a DNA cassette comprising tandem repeating units of a nucleotide sequence encoding the peptide and a linker. The DNA cassette is incorporated into a vector, and the peptide-linker multimer is increased in transformed microbial cells. The linkers are designed to include sites cleavable by a protease or chemical agent. Cleavage of the expressed multimer using the protease or chemical agent provides the biologically active peptide
 XX
 SQ Sequence 16 AA;
 Query Match 100.0%; Score 73; DB 3; Length 16;
 Best Local Similarity 100.0%; Pred. NO. 0.00029;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Qy 1 EHWSHGWYPG 10
 Db 4 EHWSHGWYPG 13

RESULT 18
 AAY79308
 ID AAY79308 standard; protein; 60 AA.
 AC AAY79308;
 XX
 DT 18-JUL-2000 (first entry)
 XX
 DE Chicken gonadotropin releasing hormone II.
 XX
 KW Gonadotropin releasing hormone II; chicken; cGnRH-II; GnRH-II.
 XX
 OS Gallus gallus.
 OS Synthetic.
 OS Chimeric.
 XX
 FH Key Location/Qualifiers
 FT Peptide 2..4
 FT /note= "linker peptide"
 FT Cleavage-site 4
 FT /note= "trypsin cleavable site"
 FT Peptide 5..14
 FT /note= "cGnRH-II"
 FT Peptide 15..17
 FT /note= "linker peptide"
 FT Cleavage-site 17
 FT /note= "trypsin cleavable site"
 FT Peptide 18..27
 FT /note= "cGnRH-II"
 FT Peptide 28..30
 FT /note= "linker peptide"
 FT Cleavage-site 30
 FT /note= "trypsin cleavable site"
 FT Peptide 31..40
 FT /note= "cGnRH-II"
 FT Peptide 41..43
 FT /note= "linker peptide"
 FT Cleavage-site 43
 FT /note= "trypsin cleavable site"
 FT Peptide 44..53
 FT /note= "cGnRH-II"
 FT Peptide 54..56
 FT /note= "linker peptide"
 FT Cleavage-site 56
 FT /note= "trypsin cleavable site"
 FT Peptide 57..60
 FT /note= "stuffer amino acids"
 XX WO200017336-A1.
 XX
 XX 30-MAR-2000.
 XX
 PF 17-SEP-1999; 99WO-KR000559.
 XX
 PR 19-SEP-1998; 98KR-00038835.
 XX
 PA (LEES/) LEE S.
 XX
 PI Lee SJ;
 XX
 DR WPI; 2000-283569/24.
 DR N-PSDB; AAZ94528.
 XX
 New DNA cassette comprising tandem repeating units of a nucleotide sequence encoding a biologically active peptide and a linker peptide used for producing the biologically active peptide.
 XX
 PS Disclosure; Fig 9; 32pp; English.
 XX
 CC The present sequence is that of a polypeptide comprising 4 tandem repeating units of chicken gonadotropin releasing hormone II (cGnRH-II) attached via trypsin cleavable peptide linkers. It is encoded by a

Sequence 60 AA:

Matches	10;	Conservative	0;	Mismatches	0;	Indels	0;	Gaps	0;
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Db 5 EHWSHGWP 14

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KW congenital immune deficiency; acquired immune deficiency; hyperarractive;
KW psychopathology; neoplastic disease; autoimmune disease; neuroprotective;
KW pathopsychological disease; neurological disease; allograft rejection;
KW graft-versus-host disease; allograft rejection; immunosuppressive;
KW cytostatic; anti-HIV; allergic; gene therapy; pacific herring.

AA PN WO2003051272-A2.

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17 DEC 2023 - 300

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PT regulating activity
PT is capable of modifying

[illegible]

CC reduced disease or condition characterized by abnormal or decreased activity of
CC e.g. congenital immune deficiencies, acquired immune deficiencies,
CC infection, psychopathology or neoplastic disease, autoimmune, allergic,
CC hyperreactive, psychopathological and neurological diseases and

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Best Local Similarity 90.0%; Pred. No. 0.00049;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWPFG 10
   :|||||
Db 1 QHWSHGWPFG 10

RESULT 21
AAR75149
ID AAR75149 standard; protein; 85 AA.
XX AC AAR75149;
XX DT 16-OCT-2003 (revised)
XX DT 19-DEC-1995 (first entry)
XX DE H. burtoni (His5,Tyr7,Tyr8)-GnRH preprohormone.
XX KW Gonadotropin releasing hormone; (His5,Tyr7,Tyr8)-GnRH; gonadoliberin;
XX KW reproduction; transgenic animal; transgenic fish; transgenic fowl.
XX OS Astatotilapia burtoni.
XX FH Key Location/Qualifiers
FT Peptide 1..23
FT /label= Sig_peptide
FT Peptide 24..33
FT /label= GnRH
FT Protein 34..85
FT /label= GAP_peptide
XX XN WO9512309-A1.
XX PD 11-MAY-1995.
XX PF 04-NOV-1994; 94WO-US012763.
XX PR 05-NOV-1993; 93US-00147771.
XX PA (STRD ) UNIV LELAND STANFORD JUNIOR.
XX PA (UYOR-) UNIV OREGON STATE.
XX PI Fernald RD, Adelman JP;
XX WPI; 1995-185526/24.
XX N-PSDB; AAQ90624.
XX PT New gonadotropin releasing hormone preprohormone DNA - used to develop
XX prods. for regulation of reproductive function and diagnosis of
XX PT reproductive capacity and disease.
XX PS Claim 3; Page 60; 85pp; English.
XX CC cDNA derived from RNA isolated from ventral portions of H. burtoni brain
XX CC was amplified by PCR using primers based on (His5,Tyr7,Tyr8)- GnRH
XX CC sequences. The PCR product was used to probe a H. burtoni ventral brain
XX CC cDNA library in lambda-gt10 to isolate a full-length cDNA clone encoding
XX CC the preprohormone. (Updated on 16-OCT-2003 to standardise OS field)
XX SQ Sequence 85 AA;

Query Match 95.9%; Score 70; DB 2; Length 85;
Best Local Similarity 90.0%; Pred. No. 0.0046;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWPFG 10
   :|||||
Db 24 QHWSHGWPFG 33

RESULT 22
AAR75150
ID AAR75150 standard; protein; 89 AA.
XX AC AAR75150;
XX DT 27-AUG-2003 (revised)
XX DT 19-DEC-1995 (first entry)
XX DE Treeshrew (His5,Tyr7,Tyr8)-GnRH preprohormone.
XX KW Gonadotropin releasing hormone; (His5,Tyr7,Tyr8)-GnRH; gonadoliberin;
XX KW reproduction; transgenic animal; transgenic fish; transgenic fowl.
XX OS Tupia belangeri.
XX XN WO9512309-A1.
XX PD 11-MAY-1995.
XX PF 04-NOV-1994; 94WO-US012763.
XX PR 05-NOV-1993; 93US-00147771.
XX PA (STRD ) UNIV LELAND STANFORD JUNIOR.
XX PA (UYOR-) UNIV OREGON STATE.
XX PI Fernald RD, Adelman JP;
XX WPI; 1995-185526/24.
XX N-PSDB; AAQ90625.
XX PT New gonadotropin releasing hormone preprohormone DNA - used to develop
XX prods. for regulation of reproductive function and diagnosis of
XX PT reproductive capacity and disease.
XX PS Claim 30; Page 66-67; 85pp; English.
XX CC cDNA derived from mRNA isolated from treeshrew brain was amplified by PCR
XX CC using primers based on (His5,Tyr7,Tyr8)-GnRH sequences. New primers were
XX CC then generated for use in RACE, and the sequence of preprohormone cDNA
XX CC was obt'd. by aligning overlapping regions from consensus 5'RACE
XX CC templates. (Updated on 27-AUG-2003 to correct OS field.)
XX SQ Sequence 89 AA;

Query Match 95.9%; Score 70; DB 2; Length 89;
Best Local Similarity 90.0%; Pred. No. 0.0048;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWPFG 10
   :|||||
Db 22 QHWSHGWPFG 31

RESULT 23
AAR75401
ID AAR75401 standard; protein; 120 AA.
XX AC AAR75401;
XX DT 12-MAR-2002 (first entry)
XX DE Human gonadotropin-releasing hormone 2 (GNRH2) protein.
XX KW Human; gonadotropin-releasing hormone 2; GNRH2 protein; haplotyping;
XX KW genotyping; gene therapy; reproductive disorder; chromosome 20p13;
XX KW single nucleotide polymorphism; SNP.
XX OS Homo sapiens.
XX FH Key Location/Qualifiers
FT Misc-difference 16
FT /note= "Ala at this position is replaced with Val due to
FT single nucleotide polymorphism (SNP)"

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FT Misc-difference 54
 FT /note= "ala at this position is replaced with Thr due to
 FT single nucleotide polymorphism (SNP)"
 XX
 XX WO200187910-A2.
 XX
 XX 22-NOV-2001.
 XX
 XX 18-MAY-2001; 2001WO-US016353.
 XX
 XX 18-MAY-2000; 2000US-0205187P.
 XX
 XX (GENA-) GENAISSANCE PHARM INC.
 XX
 XX Duda A, Kliem SE, Nandabalan K, Sausker EA;
 XX WPI; 2002-055683/07.
 DR N-PSDB; AAD25404, AAD25405.
 DR
 XX New genetic variants of gonadotropin-releasing hormone 2 isogene, useful
 PT in studying expression and function of protein and for screening drugs to
 PT treat diseases e.g. reproduction disorders.
 XX
 XX Claim 28; Fig 3; 64pp; English.
 PS
 XX The invention relates to genetic variants of human gonadotropin-
 CC releasing hormone 2 (GNRH2) gene. The invention also relates to
 CC compositions and methods for haplotyping and/or genotyping the GNRH2 gene
 CC in an individual. Polynucleotides of the invention are useful for
 CC studying the expression and function of GNRH2 and in expressing GNRH2
 CC proteins for use in screening candidate drugs to treat diseases related
 CC to GNRH2 activity. They are also used in gene therapy. The methods of the
 CC invention are useful in determining whether an individual has a haplotype
 CC or haplotype pairs. The haplotyping method is useful for improving the
 CC efficiency and reliability of several steps in the discovery and
 CC development of drugs for treating diseases associated with GNRH2
 CC activity, e.g., reproductive disorders. The present sequence is human
 CC GNRH2 protein. The GNRH2 gene located on chromosome 20p13
 XX
 SQ Sequence 120 AA;
 Query Match 95.9%; Score 70; DB 5; Length 120;
 Best Local Similarity 90.0%; Pred. No. 0.0066;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 :|||||||
 Db 24 QHWSHGWP 33
 RESULT 24
 AAE35115
 ID AAE35115 standard; protein; 120 AA.
 XX
 XX AAE35115;
 AC
 XX 28-MAY-2003 (first entry)
 DT
 XX Human gonadotropin-releasing hormone 2 (GNRH2).
 DE
 XX Human; gonadotropin-releasing hormone 2; GNRH2; reproductive disorder;
 KW gynaecological; cytostatic; hormonal; target validation; gene therapy;
 KW drug screening; lead compound; chromosome p13.
 XX
 XX Homo sapiens.
 OS
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 16
 FT /note= "This amino acid changes to Val due to single
 FT nucleotide polymorphism"
 FT
 FT Misc-difference 54
 FT /note= "This amino acid changes to Thr due to single
 FT nucleotide polymorphism"
 FT

XX WO200294850-A2.
 XX 28-NOV-2002.
 XX
 XX 01-NOV-2001; 2001WO-US050630.
 XX
 XX 18-MAY-2001; 2001WO-US016353.
 XX
 XX (GENA-) GENAISSANCE PHARM INC.
 XX
 XX Duda A, Kliem SE, Nandabalan K, Sausker EA;
 XX WPI; 2003-148454/14.
 DR N-PSDB; AAD53499, AAD53500.
 DR
 XX New gonadotropin-releasing hormone 2 (GNRH2) polypeptide encoded by
 PT genetic variants having polymorphisms in the GNRH2 gene, for studying the
 PT function of, and treating disorders, such as, reproductive disorders.
 XX
 XX Claim 27; Fig 3; 33pp; English.
 PS
 XX The invention relates to gonadotropin-releasing hormone 2 (GNRH2) and its
 CC nucleic acid sequence. Polymorphic variants of the GNRH2 gene are useful
 CC in studying the expression and function of GNRH2, and in expressing GNRH2
 CC proteins for use in screening candidate drugs for treating diseases
 CC associated with GNRH2 activity, such as reproductive disorders.
 CC Polynucleotides comprising a polymorphic gene variant or fragment may be
 CC used for therapeutic purposes, where a patient could benefit from
 CC expression or increased expression of a particular GNRH2 protein isoform,
 CC or an expression vector encoding the isoform may be administered to the
 CC patient. Haplotype information is useful in improving the efficiency and
 CC output of several steps in a drug discovery and development process,
 CC including target validation, identifying lead compounds, and early phase
 CC clinical trials. GNRH2 gene is used in gene therapy. The present sequence
 CC is human GNRH2 protein. GNRH2 gene is located at chromosome p13
 XX
 SQ Sequence 120 AA;
 Query Match 95.9%; Score 70; DB 6; Length 120;
 Best Local Similarity 90.0%; Pred. No. 0.0066;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 :|||||||
 Db 24 QHWSHGWP 33
 RESULT 25
 AAR97761
 ID AAR97761 standard; peptide; 9 AA.
 XX
 XX AAR97761;
 AC
 XX 27-AUG-1996 (first entry)
 DT
 XX Seabream gonadotropin releasing hormone sbGNRH-II.
 DE
 XX Gonadotropin releasing hormone; GnRH; sbGNRH; gonadoliberin; spawning;
 KW ovulation; fish farming; transgenic fish; seabream.
 XX
 XX Sparus aurata.
 OS
 XX WO9617619-A1.
 PN
 XX 13-JUN-1996.
 PD
 XX 04-DEC-1995; 95WO-US015886.
 PF
 XX 05-DEC-1994; 94US-00341219.
 PR
 XX (UTMA-) UNIV MARYLAND BIOTECHNOLOGY INST.
 PA (UTVI-) UNIV VICTORIA INNOVATION & DEV CORP.
 FA

XX Zohar Y, Sherwood NM, Rivier JEF, Powell J, Gothilf Y;
 XX WPI; 1996-286922/29.
 XX Novel seabream gonadotropin-releasing hormone and its analogues - useful
 XX for controlling gonadal development and spawning in fish.
 XX Disclosure; Page 25; 63pp; English.
 XX A seabream pituitary extract was subjected to HPLC. A fraction showing
 CC gonadotropin releasing hormone (GnRH) activity was subjected to
 CC pyroglutaminyl aminopeptidase digestion and the peptide obtd. (AAR37761)
 CC was sequenced. The peptide, designated sbGnRH-II, was shown to be
 CC identical to the previously described chicken GnRH-II. sbGnRH is useful
 CC for controlling reproduction in fish
 XX Sequence 9 AA;
 SQ

Query Match 93.2%; Score 68; DB 2; Length 9;
 Best Local Similarity 100.0%; Pred. No. 1.4e+06;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 2 HWSHGWPY 10
 DB 1 HWSHGWPY 9

RESULT 26
 AAP81581
 ID AAP81581 standard; protein; 10 AA.
 XX
 AC AAP81581;
 XX
 DT 25-MAR-2003 (revised)
 DT 10-OCT-1990 (first entry)
 XX LHRH analogue no. 9.
 XX Luteinising hormone releasing factor; follicle stimulating hormone;
 XX fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.
 XX Synthetic.
 OS US4721775-A.
 PN
 XX
 PD 26-JAN-1988.
 XX
 PF 26-AUG-1985; 85US-00771546.
 XX
 PR 26-AUG-1985; 85US-00771546.
 XX
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX
 PI Folkers K, Bowers CY, Tang PFL, Kubota M;
 XX WPI; 1988-049675/07.
 DR
 XX
 PT Deca:peptide luteinising hormone releasing hormone analogues - contain
 XX natural amino acids and have high activities for releasing luteinising
 XX hormone and FSH.
 OS Synthetic.
 PS US4721775-A.
 XX
 PD 26-JAN-1988.
 XX
 PF 26-AUG-1985; 85US-00771546.
 XX
 PR 26-AUG-1985; 85US-00771546.
 XX
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX
 PI Folkers K, Bowers CY, Tang PFL, Kubota M;
 XX WPI; 1988-049675/07.
 DR
 XX
 PT Deca:peptide luteinising hormone releasing hormone analogues - contain
 XX natural amino acids and have high activities for releasing luteinising
 XX hormone and FSH.
 OS Claim 9; Page 10; 10pp; English.
 PS
 XX
 CC The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81573-82.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to
 CC correct PI field.)
 XX Sequence 10 AA;
 SQ

Query Match 91.8%; Score 67; DB 1; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0014;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 DB 1 EHWSHGWYPG 10

RESULT 27
 AAP81582
 ID AAP81582 standard; protein; 10 AA.
 XX
 AC AAP81582;
 XX
 DT 25-MAR-2003 (revised)
 DT 10-OCT-1990 (first entry)
 XX LHRH analogue no. 10.
 XX Luteinising hormone releasing factor; follicle stimulating hormone;
 XX fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.
 XX Synthetic.
 OS US4721775-A.
 PN
 XX
 PD 26-JAN-1988.
 XX
 PF 26-AUG-1985; 85US-00771546.
 XX
 PR 26-AUG-1985; 85US-00771546.
 XX
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX
 PI Folkers K, Bowers CY, Tang PFL, Kubota M;
 XX WPI; 1988-049675/07.
 DR
 XX
 PT Deca:peptide luteinising hormone releasing hormone analogues - contain
 XX natural amino acids and have high activities for releasing luteinising
 XX hormone and FSH.
 OS Claim 10; Page 10; 10pp; English.
 PS
 XX
 CC The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81573-81.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to
 CC correct PI field.)
 XX Sequence 10 AA;
 SQ

Query Match 91.8%; Score 67; DB 1; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0014;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 DB 1 EHWSHGWYPG 10

RESULT 28
 ABR39986
 ID ABR39986 standard; peptide; 10 AA.
 XX
 AC ABR39986;
 XX
 DT 11-AUG-2003 (first entry)
 XX
 DE Chicken II GnRH decapeptide analogue.
 XX

KW Gonadotropin-releasing hormone; GnRH; chorionic; placental; ovarian;
 KW proline peptidase; endopeptidase; chorionic gonadotropin; hCG;
 XX steroidogenesis; luteolytic; contraceptive; chicken.
 OS Gallus gallus.
 XX
 XX
 PH Key Location/Qualifiers
 FT Modified-site 1
 FT /note= "pyroglutamic acid"
 FT Misc-difference 6
 FT /label= D-Arg
 FT /note= "encoded by GGC"
 FT 10
 FT /note= "alpha-aza-Gly-NH2 or ethylamide or other Gly-
 FT amide"
 XX
 XX WO2003016331-A2.
 PN
 XX
 PD 27-FEB-2003.
 XX
 PF 13-AUG-2002; 2002WO-US025619.
 XX
 PR 17-AUG-2001; 2001US-00932149.
 XX
 PA (SILE/) SILER-KHODR T M.
 XX
 XX Siler-Khodr TM;
 XX
 XX WPI; 2003-300607/29.
 DR N-PSDB; ACC47385.
 XX
 XX Novel salmon gonadotropin-releasing hormone decapeptide analog that binds
 PT to human chorionic, placental or ovarian gonadotropin-releasing hormone
 PT receptors, useful as luteolytic and/or post-coital contraceptive.
 XX
 XX Example 9; Page 44; 45pp; English.
 PS
 XX The invention relates to a new salmon gonadotropin-releasing hormone
 CC (GnRH) decapeptide analogue capable of binding to human chorionic,
 CC placental or ovarian GnRH receptors and active in the presence of a post-
 CC proline peptidase or an endopeptidase. The analogue comprises a D-amino
 CC acid substitution at position 6 and an ethylamide or aza-Gly-amide
 CC substitution at position 10. The analogue is useful as a luteolytic,
 CC menses-inducing agents and/or post-coital contraceptive. It is useful to
 CC inhibit the placental production of human chorionic gonadotropin (hCG)
 CC production, and has a direct effect on steroidogenesis at the ovary. It
 CC is useful in preparing a pharmaceutical, as a menses-regulating agent,
 CC contraceptive or as an abortifacient. It is also useful for regulating
 CC hCG production and thus progesterone production during pregnancy. The
 CC ability of the decapeptide analogue to interact with the physiologic
 CC regulation of hCG, progesterone and prostaglandin during luteal phase of
 CC the cycle and early pregnancy, may be used to specifically interrupt
 CC luteal function and early pregnancy. The present sequence represents a
 CC chicken II GnRH decapeptide analogue
 XX
 SQ Sequence 10 AA;
 Query Match 90.4%; Score 66; DB 6; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0019;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 Db 1 EHWSHGWYPG 10
 RESULT 29
 AAP81574
 ID AAP81574 standard; protein; 10 AA.
 XX
 AC AAP81574;
 XX
 XX 25-MAR-2003 (revised)
 DT

DT 10-OCT-1990 (first entry)
 XX
 DE LHRH analogue no. 2.
 XX
 KW Luteinising hormone releasing factor; follicle stimulating hormone;
 KW fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.
 XX
 OS Synthetic.
 XX
 PN US4721775-A.
 XX
 PD 26-JAN-1988.
 XX
 PF 26-AUG-1985; 85US-00771546.
 XX
 PR 26-AUG-1985; 85US-00771546.
 XX
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX
 PI Folkers K, Bowers CY, Tang PFL, Kubota M;
 XX WPI; 1988-049675/07.
 DR
 XX Decapeptide luteinising hormone releasing hormone analogues - contain
 PT natural amino acids and have high activities for releasing luteinising
 PT hormone and FSH.
 XX
 PS Claim 2; Page 10; 10pp; English.
 XX
 CC The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81573-82.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to
 CC correct PI field.)
 XX
 SQ Sequence 10 AA;
 Query Match 89.0%; Score 65; DB 1; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0027;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 Db 1 EHWSHGWYPG 10
 RESULT 30
 AAP81573
 ID AAP81573 standard; peptide; 10 AA.
 XX
 AC AAP81573;
 XX
 XX 25-MAR-2003 (revised)
 DT 10-OCT-1990 (first entry)
 XX
 DE LHRH analogue no. 1.
 XX
 KW Luteinising hormone releasing factor; follicle stimulating hormone;
 KW fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.
 XX
 OS Synthetic.
 XX
 PN US4721775-A.
 XX
 PD 26-JAN-1988.
 XX
 PF 26-AUG-1985; 85US-00771546.
 XX
 PR 26-AUG-1985; 85US-00771546.
 XX
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX

PI Folkers K, Bowers CY, Tang PFL, Kubota M;
 DR WPI; 1988-049675/07.
 XX
 XX Deca:peptide luteinising hormone releasing hormone analogues - contain
 PT natural amino acids and have high activities for releasing luteinising
 PT hormone and FSH.
 XX
 XX Claim 1; Page 10; 10pp; English.
 XX
 CC The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81574-82.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to
 CC correct PI field.)
 XX
 XX SQ Sequence 10 AA;
 Query Match 89.0%; Score 65; DB 1; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0027;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 DB 1 EHWSHGWQPG 10
 RESULT 31
 ID AAR11850 standard; protein; 10 AA.
 AC AAR11850;
 XX
 XX 25-MAR-2003 (revised)
 DT 12-JUL-1991 (first entry)
 XX
 XX Example of peptide analogue of GRH.
 DE
 XX GRH; gonadotropins; gametogenesis; steroidogenesis.
 KW
 XX Synthetic.
 OS
 FH Key Location/Qualifiers
 FT Modified-site 1..1
 FT /label= OTHER
 FT /note= "pyro glutamyl"
 XX
 XX GB2237571-A.
 PN
 XX
 XX 08-MAY-1991.
 PD
 XX
 XX 01-NOV-1990; 90GB-00237488.
 PF
 XX
 XX 01-NOV-1989; 89ZA-00008317.
 PR
 XX
 XX (MILL/) MILLAR R P.
 PA
 XX
 XX Millar RP;
 PI
 XX
 XX WPI; 1991-135236/19.
 DR
 XX
 XX New gonadotropin releasing hormone analogues - stimulate reproductive
 PT processes.
 FT
 XX
 XX Claim 3; Page 20; 21pp; English.
 PS
 XX
 CC This peptide is a chimeric analogue of a naturally occurring vertebrate
 CC gonadotropin releasing hormone (GRH). It stimulates the release of GRHs
 CC from the pituitary of vertebrates. This activates gametogenesis and
 CC steroidogenesis in the gonads. It can be used to regulate eg the CNS,
 CC adrenals, gonads and mammary tissues. See also AAR11840-48 and AAR11850.
 CC (Updated on 25-MAR-2003 to correct PF field.)
 XX
 XX SQ Sequence 10 AA;
 Query Match 89.0%; Score 65; DB 2; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0027;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 DB 1 EHWSHGWYPG 10
 RESULT 33
 ID AAR75157 standard; peptide; 10 AA.
 XX

XX SQ Sequence 10 AA;
 Query Match 89.0%; Score 65; DB 2; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0027;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 DB 1 EHWSHKWYPG 10
 RESULT 32
 ID AAR11849 standard; protein; 10 AA.
 XX
 XX AAR11849;
 AC
 XX
 XX 25-MAR-2003 (revised)
 DT 12-JUL-1991 (first entry)
 XX
 XX Example of peptide analogue of GRH.
 DE
 XX GRH; gonadotropins; gametogenesis; steroidogenesis.
 KW
 XX Synthetic.
 OS
 FH Key Location/Qualifiers
 FT Modified-site 1..1
 FT /label= OTHER
 FT /note= "pyro glutamyl"
 XX
 XX GB2237571-A.
 PN
 XX
 XX 08-MAY-1991.
 PD
 XX
 XX 01-NOV-1990; 90GB-00237488.
 PF
 XX
 XX 01-NOV-1989; 89ZA-00008317.
 PR
 XX
 XX (MILL/) MILLAR R P.
 PA
 XX
 XX Millar RP;
 PI
 XX
 XX WPI; 1991-135236/19.
 DR
 XX
 XX New gonadotropin releasing hormone analogues - stimulate reproductive
 PT processes.
 FT
 XX
 XX Claim 3; Page 20; 21pp; English.
 PS
 XX
 CC This peptide is a chimeric analogue of a naturally occurring vertebrate
 CC gonadotropin releasing hormone (GRH). It stimulates the release of GRHs
 CC from the pituitary of vertebrates. This activates gametogenesis and
 CC steroidogenesis in the gonads. It can be used to regulate eg the CNS,
 CC adrenals, gonads and mammary tissues. See also AAR11840-48 and AAR11850.
 CC (Updated on 25-MAR-2003 to correct PF field.)
 XX
 XX SQ Sequence 10 AA;
 Query Match 89.0%; Score 65; DB 2; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0027;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 DB 1 EHWSHWWYPG 10
 RESULT 33
 ID AAR75157 standard; peptide; 10 AA.
 XX

AC AAR75157;
 XX
 DT 27-AUG-2003 (revised)
 DT 19-DEC-1995 (first entry)
 XX
 DE Dogfish GnRH(5His,7Trp,8Leu).
 XX
 KW Gonadotropin releasing hormone; GnRH; gonadoliberin; reproduction;
 KW transgenic animal; transgenic fish; transgenic fowl.
 XX
 OS Squalia.
 XX
 PN WO9512309-A1.
 XX
 PD 11-MAY-1995.
 XX
 PF 04-NOV-1994; 94WO-US012763.
 XX
 PR 05-NOV-1993; 93US-00147771.
 XX
 PA (STRD) UNIV LELAND STANFORD JUNIOR.
 PA (UYOR-) UNIV OREGON STATE.
 XX
 PI Fernald RD, Adelman JP;
 XX
 DR WPI; 1995-185526/24.
 XX
 PT New gonadotropin releasing hormone preprohormone DNA - used to develop
 PT prods. for regulation of reproductive function and diagnosis of
 PT reproductive capacity and disease.
 XX
 PS Disclosure; Fig 1a; 85pp; English.
 XX
 CC 8 Different forms of GnRH (given in AAR75152-59) have previously been
 CC isolated from vertebrate species. A precursor for an additional form of
 CC GnRH, (Ser8)-GnRH (AAR75151), has now been obtd. (Updated on 27-AUG-2003
 CC to correct OS field.)
 XX
 SQ Sequence 10 AA;
 Query Match 89.0%; Score 65; DB 2; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0027;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWYFG 10
 |||||
 DB 1 EHWSHGWLFQ 10
 |||||
 RESULT 34
 AAU08771
 ID AAU08771 standard; peptide; 10 AA.
 XX
 AC AAU08771;
 XX
 DT 29-JAN-2002 (first entry)
 XX
 DE Chicken II gonadotropin-releasing hormone (GnRH) analogue peptide.
 XX
 KW GnRH; gonadotropin-releasing hormone; extra-pituitary GnRH receptor;
 KW antitumour; cytostatic; mammal; post-proline peptidase; endopeptidase;
 KW blood; cell proliferation; metastasis; apoptosis; tumour regression;
 KW proliferative disorder; chicken; chicken II GnRH analogue; cancer;
 KW protein degradation.
 XX
 OS Gallus gallus.
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 1 /note= "Encoded by CAG"
 FT
 FT Misc-difference 5 /note= "This is a D-form residue encoded by GGC"
 FT Modified-site 10

FT
 XX
 PN WO200174377-A1.
 XX
 PD 11-OCT-2001.
 XX
 PF 26-SEP-2000; 2000WO-US026575.
 XX
 PR 31-MAR-2000; 2000US-00540685.
 XX
 PA (KHOD/) SILER-KHODR T M.
 PA (KHOD/) KHODR G S.
 XX
 PI Siler-Khodr TM, Khodr GS;
 XX
 DR WPI; 2001-662948/76.
 DR N-PSDB; AAS14772.
 XX
 PT Non-mammalian gonadotropin-releasing hormone analog capable of binding to
 PT hormone receptors in tumor cell with greater affinity and resistant to
 PT degradation by tumor tissue enzymes, useful in tumor growth regulation.
 XX
 PS Claim 11; Page 39; 49pp; English.
 XX
 CC The invention relates to a composition comprising a non-mammalian
 CC gonadotropin-releasing hormone (GnRH) analogue for regulating tumour GnRH
 CC activity, where the analogue is capable of binding to extra-pituitary
 CC GnRH receptors expressed on tumour tissues. The analogue has a greater
 CC binding affinity than mammalian GnRH and is resistant to degradation by
 CC post-proline peptidases, particularly those found around tumour tissues,
 CC and endopeptidases found circulating in the blood. GnRH analogues are
 CC useful for regulating tumour activity by acting as superagonists at
 CC tumour tissue, leading to tissue receptor down regulation. The peptides
 CC act to reduce tumour cell proliferation and metastasis and can induce
 CC apoptosis and tumour regression. GnRH analogues are also useful for
 CC producing antibodies that specifically bind to non-mammalian GnRH peptide
 CC sequences or to tumour tissues or any other non-pituitary GnRH peptide or
 CC protein, for the treatment of proliferative disorders. This sequence
 CC represents a chicken II GnRH analogue peptide
 XX
 SQ Sequence 10 AA;
 Query Match 89.0%; Score 65; DB 4; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0027;
 Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWYFG 10
 |||||
 DB 1 EHWSHRWYFG 10
 |||||
 RESULT 35
 AAE28138
 ID AAE28138 standard; peptide; 10 AA.
 XX
 AC AAE28138;
 XX
 DT 27-DEC-2002 (first entry)
 XX
 DE Alternative version #2 of chicken GnRH peptide.
 XX
 KW Chicken; gonadotropin releasing hormone; postcoital contraceptive agent;
 KW GnRH; pregnancy; ovarian cyst; endometriosis; polycystic ovarian disease;
 KW leiomyomas; luteolytic agent; fertility regulation; menses-inducing agent;
 KW abnormal uterine bleeding; abnormal pregnancy; trophoblastic disease;
 KW ectopic pregnancy; molar pregnancy; human chorionic gonadotropin; hCG;
 KW abortion; gynaecological; cytostatic; abortifacient; contraceptive.
 XX
 OS Gallus gallus.
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 1 /note= "Pyroglutamic acid; Encoded by CAG"
 FT
 FT Misc-difference 10

/note= "This residue is amidated aza-Gly"

CC stimulating hormone. GnRH is capable of modulating the differentiation of
 CC bone precursor cells, and inducing the expansion of osteoblast
 CC populations. The peptide can be used in compositions for treating
 CC osteoporosis (and other diseases of bone metabolism) and for the
 CC acceleration of bone repair. The compositions have osteogenic activity.
 CC The compositions are used to treat or prevent osteoporosis, other
 CC disorders of bone metabolism (e.g. osteogenesis imperfecta, osteomalacia
 CC or bone loss resulting from prolonged periods of immobility), and to
 CC accelerate bone growth and repair (e.g. for healing fractures)
 XX
 SQ Sequence 11 AA;
 Query Match 85.6%; Score 62.5; DB 3; Length 11;
 Best Local Similarity 90.9%; Pred. No. 0.007;
 Matches 10; Conservative 0; Mismatches 1; Gaps 1;
 Qy 1 EHWSHGWY-PG 10
 Db 1 EHWSHGWYHPG 11
 RESULT 40
 AAB06264
 ID AAB06264 standard; peptide; 11 AA.
 AC AAB06264;
 DT 16-OCT-2000 (first entry)
 DE GnRH-II resin-bound protected peptide.
 XX
 KW GnRH-II; gonadotropin releasing hormone; GnRH;
 XX luteinising hormone releasing hormone; GnRH;
 XX osteoporosis; hormone; LHRH; osteogenesis;
 KW prostatic epithelial cell proliferation; bone disorder;
 KW prostate disorder.
 XX
 OS Unidentified.
 XX
 FH Key Location/Qualifiers
 FT Modified-site 1
 FT Modified-site 2 /note= "Pyroglutamic acid"
 FT Modified-site 3 /note= "His(Bom)"
 FT Modified-site 4 /note= "Trp(CHO)"
 FT Modified-site 5 /note= "Ser(Bzl)"
 FT Modified-site 6 /note= "His(Bom)"
 FT Modified-site 7 /note= "Trp(CHO)"
 FT Modified-site 8 /note= "Tyr(Bzl)"
 FT Modified-site 9 /note= "His(Bom)"
 FT Modified-site 11 /note= "Gly-Ors"
 XX
 DN GB2344287-A.
 XX
 PD 07-JUN-2000.
 XX
 XX 03-DEC-1998; 98GB-00026662.
 XX
 PR 03-DEC-1998; 98GB-00026662.
 XX
 FA (FERR) FERRING BV.
 XX
 PI Akinsanya K, Hayward A, Qi S;
 XX WPI; 2000-378694/33.
 XX
 PR Pharmaceutical composition for treating bone and prostrate disorders

PT comprises a peptide microencapsulated within a biodegradable polymer.
 XX Disclosure; Page 6; 13pp; English.
 XX
 CC The present sequence is GnRH-II, a peptide with homology to gonadotropin
 CC releasing hormone (GnRH), otherwise known as luteinising hormone releasing
 CC hormone, LHRH). GnRH-II influences osteogenesis and modulates the
 CC proliferation of prostatic epithelial cells and so may be useful for
 CC treating human disease associated with abnormal bone and prostate growth.
 CC A biodegradable polymer is used to hold the peptide in a depot, from
 CC which the peptide is released into the systemic circulation at a
 CC controlled rate. The peptide was first prepared in the present resin-
 CC bound protected form and was then cleaved and deprotected to produce a
 CC form suitable for use as a therapeutic agent
 XX
 SQ Sequence 11 AA;
 Query Match 85.6%; Score 62.5; DB 3; Length 11;
 Best Local Similarity 90.9%; Pred. No. 0.007;
 Matches 10; Conservative 0; Mismatches 0; Indels 1; Gaps 1;
 Qy 1 EHWSHGWY-PG 10
 Db 1 EHWSHGWYHPG 11
 RESULT 41
 AAO31051
 ID AAO31051 standard; peptide; 10 AA.
 AC AAO31051;
 DT 06-OCT-2003 (first entry)
 DE Spiny dogfish gonadotropin releasing hormone (GnRH-I) peptide #1.
 XX
 KW Gonadotropin releasing hormone; GnRH-I; GnRH-II; T-cell related disease;
 KW congenital immune deficiency; acquired immune deficiency; hyperreactive;
 KW psychopathology; neoplastic disease; autoimmune disease; neuroprotective;
 KW pathophysiological disease; neurological disease; allograft rejection;
 KW graft-versus-host disease; allograft rejection; immunosuppressive;
 KW cytostatic; anti-HIV; allergic; gene therapy; spiny dogfish.
 XX
 OS Squalus acanthias.
 XX
 PN WO2003051272-A2.
 XX
 PD 26-JUN-2003.
 XX
 PF 17-DEC-2002; 2002WO-IL001014.
 XX
 PR 17-DEC-2001; 2001IL-00147138.
 XX
 PA (YEDA) YEDA RES & DEV CO LTD.
 XX
 PI Levite M, Koch Y;
 XX
 DR WPI; 2003-523498/49.
 XX
 PT Regulating activity of a T-cell population by providing a molecule that
 PT is capable of modifying an activity or expression level of GnRH-I or GnRH
 PT -II receptor to regulate GnRH-I or a GnRH-II mediated activity of the T-
 PT cell population.
 XX
 PS Disclosure; Page 164; 177pp; English.
 XX
 CC The invention relates to a method for regulating activity of a T-cell
 CC population. The method comprising providing to the T-cell population a
 CC molecule that is selected to be capable of modifying an activity or
 CC expression level of a gonadotropin releasing hormone (GnRH)-I or a GnRH-
 CC II receptor to regulate GnRH-I or a GnRH-II mediated activity of a T-cell
 CC population. The method is useful for treating or preventing a T-cell
 CC related disease or condition characterised by abnormal T-cell activity,

e.g. congenital immune deficiencies, acquired immune deficiencies, CC infection, psychopathology or neoplastic disease, autoimmune, allergic, CC hyperreactive, pathopsychological and neurological diseases and CC conditions, graft-versus-host disease, or allograft rejections. The CC invention is useful in gene therapy. The present sequence is spiny CC dogfish gonadotropin releasing hormone (GnRH-I) peptide

XX
SQ Sequence 10 AA;

Query Match 84.9%; Score 62; DB 6; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.0075;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 QHWSHGWLPG 10

RESULT 42

AAO31055
ID AAO31055 standard; peptide; 10 AA.

XX AC AAO31055;
DT 06-OCT-2003 (first entry)
XX DE Spiny dogfish gonadotropin releasing hormone (GnRH-I) peptide #2.
XX Gonadotropin releasing hormone; GnRH-I; GnRH-II; T-cell related disease;
KW congenital immune deficiency; acquired immune deficiency; hyperreactive;
KW psychopathology; neoplastic disease; autoimmune disease; neuroprotective;
KW pathopsychological disease; neurological disease; allograft rejection;
KW graft-versus-host disease; allograft rejection; immunosuppressive;
KW cytostatic; anti-HIV; allergic; gene therapy; spiny dogfish.
XX
XX Squalus acanthias.
OS
XX WO2003051272-A2.
PN
XX 26-JUN-2003.
PD
XX 17-DEC-2002; 2002WO-IL001014.
PF
XX 17-DEC-2001; 2001IL-00147138.
PR
XX (YEDA) YEDA RES & DEV CO LTD.
XX PA
XX Levite M, Koch Y;
PI
XX WPI; 2003-523498/49.
DR
XX Regulating activity of a T-cell population by providing a molecule that
PT is capable of modifying an activity or expression level of GnRH-I or GnRH
PT -II receptor to regulate GnRH-I or a GnRH-II mediated activity of the T-
PT cell population.
XX
XX Disclosure; Page 165; 177pp; English.

XX The invention relates to a method for regulating activity of a T-cell
CC population. The method comprising providing to the T-cell population a
CC molecule that is selected to be capable of modifying an activity or
CC expression level of a gonadotropin releasing hormone (GnRH)-I or a GnRH-
CC II receptor to regulate GnRH-I or a GnRH-II mediated activity of a T-cell
CC population. The method is useful for treating or preventing a T-cell
CC related disease or condition characterised by abnormal T-cell activity,
CC e.g. congenital immune deficiencies, acquired immune deficiencies,
CC infection, psychopathology or neoplastic disease, autoimmune, allergic,
CC hyperreactive, pathopsychological and neurological diseases and
CC conditions, graft-versus-host disease, or allograft rejections. The
CC invention is useful in gene therapy. The present sequence is spiny
XX dogfish gonadotropin releasing hormone (GnRH-I) peptide
XX Sequence 10 AA;

Query Match 84.9%; Score 62; DB 6; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.0075;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 QHWSHGWLPG 10

RESULT 43

ABB06171
ID ABB06171 standard; peptide; 12 AA.

XX AC ABB06171;

XX DT 13-MAY-2002 (first entry)

XX DE Gonadotropin-releasing hormone precursor peptide #3.

XX Gonadotropin-releasing hormone precursor peptide; GnRH; octopus;
KW gonadotropin-releasing hormone; signal processing mechanism; drug;
KW nerve system; pesticide; cardiant.
XX OS Octopus vulgaris.

XX PH Key Location/Qualifiers
FT Modified-site 1 /note= "pyroglutamic acid"
FT Modified-site 12 /note= "amidated"

XX WO200202628-A1.

XX PD 10-JAN-2002.

XX PF 29-JUN-2001; 2001WO-JP005607.

XX PR 30-JUN-2000; 2000JP-00198430.

XX PA (SUNR) SUNTORY LTD.

XX PI Minakata H, Iwakoshi E, Kuroda K;

XX WPI; 2002-154729/20.

XX New octopus brain-originated peptide with gonadotropin-releasing hormone
PT (GnRH) activity, useful in studying signal processing mechanism in nerve
PT system and in developing pesticides and drugs, and breeding and farming
PT young octopuses.
XX Claim 7; Page 26; 45pp; Japanese.

XX The present invention describes a peptide with gonadotropin-releasing
CC hormone (GnRH) activity comprising the sequence: pGlu-Zaa-Zaa-His-Zaa-Ser
CC -Zaa-Zaa-Zaa-Zaa-Pro-Gly-NH₂ (I), where pGlu = pyroglutamic acid and Zaa
CC = any amino acid. Peptides with GnRH activity also have cardiant
CC activity. The peptides and their analogues can be used in studying signal
CC processing mechanisms in the nerve system and in developing pesticides
CC and drugs for e.g. potentiating heart beat and breeding and farming young
CC octopuses. The present sequence represents a specifically claimed GnRH
CC peptide from the present invention

XX SQ Sequence 12 AA;

Query Match 83.6%; Score 61; DB 5; Length 12;
Best Local Similarity 88.9%; Pred. No. 0.013;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 HWSHGWTYPG 10
Db 4 HWSNGWTYPG 12

DT 31-JAN-1992 (first entry)
 XX Sequence of fish gonadotropin hormone releasing hormone (GnRH).
 DE Luteinising hormone; follicle stimulating hormone; spawning.
 KW Salmo salar.
 XX
 OS
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 1 /label= pyroGlu
 FT Modified-site 10 /label= Gly-NH2
 FT
 FT
 FT
 XX US4443368-A.
 XX
 XX PD 17-APR-1984.
 XX
 XX PF 01-NOV-1982; 82US-00437949.
 XX
 XX PR 01-NOV-1982; 82US-00437949.
 XX
 PA (SALK) SALK INST BIOLOGICAL STUDIES.
 PA (SHER/) SHERWOOD NM.
 PA (SALK) SALK INST BIOLOGICAL STUDIES.
 XX
 PI Sherwood NM, Eiden LE, Brownstein MJ, Spiess J, Rivier JEF;
 PI Vale WW;
 XX
 DR WPI; 1984-113447/18.
 XX Gonadotropin releasing hormone deca:peptide - for stimulating pituitary
 FT gland of fish to cause spawning.
 XX
 PS Claim 1; Col 7; 4pp; English.
 XX
 CC The peptide of the invention has a potent effect on the reproduction
 CC processes of fish. Spawning of teleostei fish can be promoted by
 CC administration of effective amounts of the peptide. The peptide of the
 CC invention is effective at a level of less than about 10 micrograms per
 CC 100 grams of body weight, when administered to fish. It is considered to
 CC be effective in fish and in other vertebrates, including mammals and
 CC amphibians. (Updated on 25-MAR-2003 to correct PA field.)
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 80.8%; Score 59; DB 1; Length 10;
 Best Local Similarity 80.0%; Pred. No. 0.021;
 Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWPYG 10
 DB 1 EHWSYGLWPG 10
 RESULT 47
 AAP50510
 ID AAP50510 standard; protein; 10 AA.
 XX
 AC AAP50510;
 XX
 XX 25-MAR-2003 (revised)
 DT 10-MAR-2003 (revised)
 DT 01-NOV-1991 (first entry)
 XX
 DE Sequence of gonadoliberein analogue.
 XX
 XX Hormone; reproduction; fertility; contraception; ovulation.
 KW Vertebrata.
 OS Synthetic.
 XX
 FH Key Location/Qualifiers

FT Misc-difference 1 /label= pyroGlu
 FT Modified-site 10 /label= Gly-NH2
 FT
 XX BE901307-A.
 XX
 XX PD 19-JUN-1985.
 XX
 XX PF 19-DEC-1984; 84BE-00901307.
 XX
 XX PR 23-DEC-1983; 83HU-00004458.
 XX
 XX (VALT-) KOEZPONTI VALTO ES HITELBANK RT.
 XX (INNO-) INNOVACIOS ALAP.
 XX (KERT-) KERTZBUTE.
 XX
 XX WPI; 1985-159468/27.
 XX
 XX New gonadoliberein analogues - useful for ovulation control in fish birds
 FT and mammals.
 FT
 XX Claim 2; Page 25; 29pp; French.
 XX
 CC The analogues of the invention are useful for controlling ovulation in
 CC fish, birds and mammals. They have higher activity than their natural
 CC counterparts. (Updated on 10-MAR-2003 to add missing OS field.) (Updated
 CC on 25-MAR-2003 to correct PA field.)
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 80.8%; Score 59; DB 1; Length 10;
 Best Local Similarity 80.0%; Pred. No. 0.021;
 Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWPYG 10
 DB 1 EHWSYGLWPG 10
 RESULT 48
 AAP11843
 ID AAP11843 standard; protein; 10 AA.
 XX
 AC AAP11843;
 XX
 XX 25-MAR-2003 (revised)
 DT 12-JUL-1991 (first entry)
 DT
 XX Example of peptide analogue of GRH.
 DE
 XX GRH; gonadotropins; gametogenesis; steroidogenesis.
 XX
 XX Synthetic.
 XX
 XX Key Location/Qualifiers
 FT Modified-site 1.1
 FT /label= OTHER
 FT /note= "pyro glutamyl"
 XX
 XX GB2237571-A.
 XX
 XX 08-MAY-1991.
 PD
 XX 01-NOV-1990; 90GB-00237488.
 PF
 XX 01-NOV-1989; 89ZA-00008317.
 PR
 XX (MILL/) MILLAR R P.
 PA
 XX Millar RP;
 PI
 XX WPI; 1991-135236/19.
 DR

XX New gonadotropin releasing hormone analogues - stimulate reproductive
 PT processes.
 XX
 XX Claim 2; Page 19; 21pp; English.
 XX
 CC This peptide is a chimeric analogue of a naturally occurring vertebrate
 CC gonadotropin releasing hormone (GRH). It stimulates the release of GRHs
 CC from the pituitary of vertebrates. This activates gametogenesis and
 CC steroidogenesis in the gonads. It can be used to regulate eg the CNS,
 CC adrenals, gonads and mammary tissues. See also AAR11840-42 and AAR11844-
 CC 50. (Updated on 25-MAR-2003 to correct PF field.)
 XX
 XX Sequence 10 AA;

Query Match 80.8%; Score 59; DB 2; Length 10;
 Best Local Similarity 80.0%; Pred. No. 0.021;
 Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWTYPG 10
 DB 1 EHWSYTWYTPG 10

RESULT 49
 AAR11844
 ID AAR11844 standard; protein; 10 AA.
 AC AAR11844;
 XX
 XX 25-MAR-2003 (revised)
 DT 12-JUL-1991 (first entry)
 XX
 XX Example of peptide analogue of GRH.
 DE
 XX GRH; gonadotropins; gametogenesis; steroidogenesis.
 XX
 XX Synthetic.
 OS
 XX Key Location/Qualifiers
 FH Modified-site 1. 1
 FT /label= OTHER
 FT /note= "pyro glutamyl"

XX GB2237571-A.
 XX
 XX 08-MAY-1991.
 XX
 XX 01-NOV-1990; 90GB-00237488.
 XX
 XX 01-NOV-1989; 89ZA-00008317.
 XX
 XX (MILL/) MILLAR R P.
 XX
 XX Millar RP;
 PI
 XX WPI; 1991-135236/19.
 DR
 XX
 XX New gonadotropin releasing hormone analogues - stimulate reproductive
 PT processes.
 XX
 XX Claim 2; Page 19; 21pp; English.

XX This peptide is a chimeric analogue of a naturally occurring vertebrate
 CC gonadotropin releasing hormone (GRH). It stimulates the release of GRHs
 CC from the pituitary of vertebrates. This activates gametogenesis and
 CC steroidogenesis in the gonads. It can be used to regulate eg the CNS,
 CC adrenals, gonads and mammary tissues. See also AAR11840-43 and AAR11845-
 CC 50. (Updated on 25-MAR-2003 to correct PF field.)
 XX
 XX Sequence 10 AA;

Query Match 80.8%; Score 59; DB 2; Length 10;

Best Local Similarity 80.0%; Pred. No. 0.021;
 Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWTYPG 10
 DB 1 EHWSYKWYTPG 10

RESULT 50
 AAR75154
 ID AAR75154 standard; peptide; 10 AA.
 XX
 XX AAR75154;
 AC
 XX
 XX DT 19-DEC-1995 (first entry)
 XX
 XX DE Salmon GnRH(7Trp,8Leu).
 XX
 XX Gonadotropin releasing hormone; GnRH; gonadoliberein; reproduction;
 KW transgenic animal; transgenic fish; transgenic fowl;
 KW
 XX Salmo sp.
 OS
 XX
 XX FN WO9512309-A1.

XX
 XX PD 11-MAY-1995.
 XX
 XX PF 04-NOV-1994; 94WO-US012763.
 XX
 XX PR 05-NOV-1993; 93US-00147771.
 XX
 XX (STRD) UNIV LELAND STANFORD JUNIOR.
 PA (UYOR-) UNIV OREGON STATE.
 XX
 XX Fernald RD, Adelman JP;
 PI
 XX WPI; 1995-185526/24.
 DR
 XX
 XX PT New gonadotropin releasing hormone preprohormone DNA - used to develop
 PT prods. for regulation of reproductive function and diagnosis of
 PT reproductive capacity and disease.
 PT
 XX Disclosure; Fig 1a; 85pp; English.
 PS
 XX 8 Different forms of GnRH (given in AAR75152-59) have previously been
 CC isolated from vertebrate species. A precursor for an additional form of
 CC GnRH, (Ser8)-GnRH (AAR75151), has now been obtd
 CC
 XX Sequence 10 AA;

Query Match 80.8%; Score 59; DB 2; Length 10;
 Best Local Similarity 80.0%; Pred. No. 0.021;
 Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWTYPG 10
 DB 1 EHWSYGLWLPG 10

Search completed: March 2, 2004, 19:25:39
 Job time : 59.5 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:19:28 ; Search time 13.5 Seconds
(without alignments)
71.253 Million cell updates/sec

Title: US-09-857-115-6

Perfect score: 73

Sequence: 1 EHWSGWTPG 10

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 500 summaries

Database :

PIR 78:*

1: PIR1:*

2: PIR2:*

3: PIR3:*

4: PIR4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	70	95.9	10	1	RHAQ2
2	70	95.9	10	1	A61126
3	70	95.9	10	2	B46030
4	70	95.9	80	2	JC7394
5	70	95.9	85	2	A53453
6	70	95.9	86	1	RHID2S
7	62	84.9	10	2	A46030
8	57	78.1	10	2	A49187
9	56	76.7	10	2	A21114
10	56	76.7	74	2	I51092
11	56	76.7	82	2	I51180
12	56	76.7	82	2	I51355
13	56	76.7	82	2	I51365
14	56	76.7	82	2	I51331
15	56	76.7	90	2	JC7395
16	56	76.7	90	2	A23735
17	56	76.7	90	2	I51095
18	48	65.8	80	1	RHID1S
19	47.5	65.1	319	2	H69043
20	47.5	65.1	321	2	A69088
21	45	61.6	437	2	E90368
22	45	61.6	437	2	H90854
23	45	61.6	439	2	C90769
24	45	61.6	439	2	E85916
25	43	58.9	10	1	RHAQ1
26	43	58.9	92	2	I50844
27	43	58.9	866	2	A11880
28	43	58.9	869	2	S76720
29	43	58.9	882	2	AE1416
30	42	57.5	42	1	RHPGG
31	42	57.5	10	1	RHSHG
32	42	57.5	67	2	I78541
33	42	57.5	71	2	A24303
34	42	57.5	89	2	I51423
35	42	57.5	90	1	RHMSG
36	42	57.5	92	1	RHHUG
37	42	57.5	92	1	RHRIG
38	42	57.5	98	2	I50739
39	42	57.5	157	2	I53276
40	42	57.5	167	2	AC3314
41	42	57.5	170	2	S19961
42	42	57.5	171	2	I48272
43	42	57.5	171	2	S20947
44	42	57.5	397	2	P90449
45	41.5	56.8	449	2	G84091
46	41	56.2	450	2	AG2431
47	41	56.2	2091	2	A97077
48	40.5	55.5	413	2	B70573
49	40	54.8	114	2	F69782
50	40	54.8	145	2	F81807
51	40	54.8	145	2	H81061
52	40	54.8	162	2	AG2548
53	40	54.8	417	2	T33827
54	40	54.8	567	1	B45865
55	40	54.8	697	2	A95279
56	40	54.8	752	1	C2HU
57	40	54.8	760	1	C2MS
58	40	54.8	827	2	S25949
59	40	54.8	856	2	I58411
60	40	54.8	889	2	E71608
61	39	53.4	75	2	S03594
62	39	53.4	91	2	JC7393
63	39	53.4	92	2	F90898
64	39	53.4	158	2	A40761
65	39	53.4	158	2	A40443
66	39	53.4	251	2	C45557
67	39	53.4	364	2	H84778
68	39	53.4	407	2	G90907
69	39	53.4	438	2	JN0584
70	39	53.4	440	2	F85584
71	39	53.4	440	2	P85584
72	39	53.4	601	2	D83583
73	39	53.4	645	2	D90782
74	39	53.4	645	2	H85642
75	39	53.4	1021	2	AG1938
76	39	53.4	1344	2	S47412
77	38.5	52.7	316	2	T10436
78	38.5	52.7	507	2	T49519
79	38.5	52.7	551	1	A31389
80	38	52.1	66	2	AE1039
81	38	52.1	132	2	A95850
82	38	52.1	182	2	C83600
83	38	52.1	256	2	C70687
84	38	52.1	385	2	A97634
85	38	52.1	385	2	AC2857
86	38	52.1	393	2	T25590
87	38	52.1	521	2	T34482
88	38	52.1	524	2	T24673
89	38	52.1	530	2	T20360
90	38	52.1	571	2	T20359
91	38	52.1	637	2	TC8530
92	38	52.1	637	2	S22992
93	38	52.1	679	2	A42073
94	38	52.1	834	2	S54563
95	38	52.1	1219	2	H84464
96	38	52.1	1277	2	S54451
97	37.5	51.4	385	2	T26745
98	37.5	51.4	401	2	S74793
99	37.5	51.4	496	2	D97728
100	37.5	51.4	538	2	E72561
101	37	50.7	148	2	B93321
102	37	50.7	148	2	P83542

gonadoliberin - pi
gonadoliberin - sh
gonadoliberin prec
Na+/K+-exchanging
gonadoliberin prec
gonadoliberin prec
gonadoliberin prec
gonadoliberin prec
gonadotropin-relea
hypothetical anti-
hypothetical membr
btg1 protein - chi
btg1 protein - mou
btg1 protein - hum
conserved hypothet
hypothetical prote
hypothetical prote
hypothetical prote
hypothetical prote
ribonuclease H (EC
ribonuclease HI NM
hypothetical prote
hypothetical prote
cytochrome-c3 hydr
probable methylami
complement C2 prec
classical-compleme
gene coxII intron
protein-tyrosine k
Atp-dept. acyl-CoA
fil protein - phag
medaka-type gonado
probable tail fibre
growth factor-indu
nerve growth facto
regulatory protein
hypothetical prote
probable tail fibre
aminoacylase (EC 3
probable tail fibre
probable tail comp
probable acyl-CoA
probable tail fibre
probable tail fibre
hypothetical prote
gene p2 protein -
probable transposa
hypothetical prote
beta-amylase (EC 3
hypothetical prote
hypothetical prote
hypothetical prote
hypothetical prote
conserved hypothet
hypothetical prote
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hypothetical prote
hypothetical prote
hypothetical prote
tag protein - Ent
trac protein - Esc
potassium channel
hypothetical prote
probable helicase
hypothetical prote
hypothetical prote
succinate-CoA liga
thermostable carbo
probable thermosta
hypothetical prote
hypothetical prote

103	37	50.7	190	2	F81932	probable anhydro-N	176	49.3	284	2	T14291	glutamate-ammonia
104	37	50.7	190	2	H81172	ampD protein NMB30	177	49.3	315	2	H64082	hypothetical prote
105	37	50.7	258	2	AF2204	beta-carotene keto	178	49.3	331	2	A69794	hypothetical prote
106	37	50.7	269	2	S71507	restriction endonu	179	49.3	349	2	G36470	wnt-7a protein - m
107	37	50.7	269	2	S36166	paired box transcr	180	49.3	352	2	S45558	cytochrome c-type
108	37	50.7	278	2	S25727	hypothetical prote	181	49.3	360	2	A22047	hypothetical prote
109	37	50.7	345	2	JC1174	amidase (EC 3.5.1.1)	182	49.3	362	2	I37515	MHC class I histoc
110	37	50.7	346	2	H83222	amidase (EC 3.5.1.1)	183	49.3	364	2	D75491	conserved hypotnet
111	37	50.7	350	2	A26741	aliphatic amidase	184	49.3	381	2	S36189	penicillin-binding
112	37	50.7	350	2	A42009	N-formyl peptide r	185	49.3	382	2	G70946	probable dioxygena
113	37	50.7	352	2	A46520	N-formyl peptide x	186	49.3	391	2	E69448	hypothetical prote
114	37	50.7	364	2	A49542	N-formyl peptide c	187	49.3	398	2	F72335	hypothetical prote
115	37	50.7	364	2	B83078	probable D-amino a	188	49.3	408	2	A47488	aminocyclase (EC 3
116	37	50.7	383	2	G96629	hypothetical prote	189	49.3	409	2	A52473	conserved hypotnet
117	37	50.7	384	2	A06688	probable bacteriop	190	49.3	411	2	E85918	conserved hypotnet
118	37	50.7	394	2	AB1877	hypothetical prote	191	49.3	418	2	A28872	cinnamoyl ester hy
119	37	50.7	403	2	S53470	IMP dehydrogenase	192	49.3	420	2	H97648	hypothetical prote
120	37	50.7	416	2	S37689	paired box transcr	193	49.3	427	1	ALBHB	alpha-amylase (EC
121	37	50.7	420	2	S77102	hypothetical prote	194	49.3	429	1	JR0406	hypothetical prote
122	37	50.7	422	1	A56674	paired box transcr	195	49.3	448	2	C96542	isochorismate synt
123	37	50.7	436	1	S42234	paired box transcr	196	49.3	455	2	A03038	hypothetical prote
124	37	50.7	451	1	I50108	paired box transcr	197	49.3	486	2	T21566	unknown protein Tl
125	37	50.7	451	2	T35914	probable carboxype	198	49.3	509	2	A56749	hypothetical prote
126	37	50.7	453	2	T38707	probable initiator	199	49.3	534	2	C70945	hypothetical prote
127	37	50.7	471	2	S64310	4-aminobutyrate tr	200	49.3	565	2	T49197	hypothetical prote
128	37	50.7	471	2	G83561	hypothetical prote	201	49.3	592	2	T27476	Ig mu chain precur
129	37	50.7	472	2	H90563	hypothetical prote	202	49.3	627	2	S14683	hypothetical prote
130	37	50.7	510	2	T22855	hypothetical prote	203	49.3	674	2	T21217	hypothetical prote
131	37	50.7	581	2	T38501	hypothetical prote	204	49.3	692	2	A97013	probable membrane
132	37	50.7	632	2	J50631	alpha-amylase (EC	205	49.3	724	2	S57604	scavenger receptor
133	37	50.7	682	2	S30395	gene 50 protein -	206	49.3	742	2	JC7595	probable membrane
134	37	50.7	687	2	JQ1044	arylophorin precurs	207	49.3	746	2	S67203	hypothetical prote
135	37	50.7	721	2	D83110	exodeoxyribonuclea	208	49.3	769	2	T24949	probable secreted
136	37	50.7	759	2	JQ1045	arylophorin precurs	209	49.3	781	2	T36143	single-strand DNA-
137	37	50.7	760	2	I48745	smaphorin B - mou	210	49.3	784	2	H83804	hypothetical prote
138	37	50.7	790	2	T20312	hypothetical prote	211	49.3	828	2	T08556	pyroloquinoline q
139	37	50.7	835	1	W2B551	gene 51 protein -	212	49.3	862	2	S82441	hypothetical prote
140	37	50.7	838	2	I45557	eyeless, long form	213	49.3	876	2	D70971	hypothetical prote
141	37	50.7	998	1	Q0BB1	protein A - flock	214	49.3	882	2	S77211	isoleucine-tRNA li
142	37	50.7	998	2	S41397	bacteriocin XP2407	215	49.3	988	2	S71424	nitric-oxide synth
143	37	50.7	2064	2	G82562	toxin B - Clostrid	216	49.3	1203	1	A47501	nitric-oxide synth
144	37	50.7	2366	2	S10317	toxin B - Clostrid	217	49.3	1205	1	A38943	nitric-oxide synth
145	37	50.7	2367	2	S70172	Rhesus-like protei	218	49.3	1366	2	S57664	IgA-specific metal
146	36.5	50.0	354	2	I37053	hypothetical prote	219	49.3	1430	2	T21910	hypothetical prote
147	36.5	50.0	403	2	H87569	conserved hypotnet	220	49.3	1526	2	S49763	gingipain R (EC 3.
148	36.5	50.0	1108	2	AD3032	hypothetical prote	221	49.3	1581	1	VGMJBV	peplomer glycoprot
149	36.5	50.0	1140	2	H98253	hypothetical prote	222	49.3	1704	2	A55426	gingipain R (EC 3.
150	36.5	50.0	4568	2	T08030	dynein beta heavy	223	49.3	1732	2	T30836	lysine-specific cy
151	36	49.3	68	2	H81117	hypothetical prote	224	49.3	1817	2	T10689	hypothetical prote
152	36	49.3	96	2	E83191	hypothetical prote	225	49.3	1849	2	T14096	guanine nucleotide
153	36	49.3	133	2	C33548	Ig heavy chain V-1	226	49.3	98	2	E64720	probable membrane
154	36	49.3	137	1	S25968	succinate dehydrog	227	48.6	98	2	E85480	hypothetical prote
155	36	49.3	143	2	D83148	hypothetical prote	228	48.6	98	2	E90629	hypothetical prote
156	36	49.3	152	2	G81175	dATP pyrophosphory	229	48.6	197	2	I39723	ORF13 - Agrobacter
157	36	49.3	152	2	H81930	probable nucleosid	230	48.6	209	2	S01988	late L3 23K protei
158	36	49.3	157	2	A75398	hypothetical prote	231	48.6	251	2	A43314	hypothetical membr
159	36	49.3	160	2	B84903	hypothetical prote	232	48.6	361	2	T39784	hypothetical prote
160	36	49.3	169	2	A83077	probable signal pe	233	48.6	378	2	AC0745	conserved hypotnet
161	36	49.3	173	2	AC1444	hypothetical prote	234	48.6	391	2	A42973	serum protein MSB5
162	36	49.3	174	2	D30454	conserved hypotnet	235	48.6	437	2	T03161	hypothetical prote
163	36	49.3	182	2	T35142	hypothetical prote	236	48.6	448	2	B71257	conserved hypotnet
164	36	49.3	185	2	JC4085	glycine-rich cutic	237	48.6	455	2	E97081	amino acid permeas
165	36	49.3	191	2	G70940	hypothetical prote	238	48.6	458	2	S12444	hypothetical prote
166	36	49.3	193	2	A44791	superoxide dismuta	239	48.6	487	2	C92137	FAD monooxygenase,
167	36	49.3	196	2	H83225	hypothetical prote	240	48.6	549	2	S74467	hypothetical prote
168	36	49.3	207	2	T21273	hypothetical prote	241	48.6	605	2	T49780	related to beta tr
169	36	49.3	220	2	AD0938	hypothetical prote	242	48.6	1259	2	S25954	gene apA iniron tr
170	36	49.3	224	2	AF3473	nucleoside-triphos	243	48.6	62	2	A11756	hypothetical prote
171	36	49.3	235	2	A22962	carbonate dehydrat	244	47.9	90	2	T42170	hypothetical prote
172	36	49.3	237	2	A41796	neural retina leuc	245	47.9	103	2	F75325	hypothetical prote
173	36	49.3	253	2	F59181	transcription regu	246	47.9	107	1	Q0BC12	preprolin peptidase
174	36	49.3	263	2	A30227	hypothetical prote	247	47.9	107	2	H91088	
175	36	49.3	277	2	T29611	hypothetical prote	248	47.9	107	2	H91088	

249	35	47.9	107	2	B85934	prelilin peptidase	322	35	47.9	859	1	VCLJEW	env polyprotein pr
250	35	47.9	117	2	AH2059	hypothetical prote	323	35	47.9	859	1	VCLJEW	env polyprotein pr
251	35	47.9	134	2	A87519	conserved hypothet	324	35	47.9	859	1	VCLJEW	env polyprotein pr
252	35	47.9	144	2	G90573	50S ribosomal prot	325	35	47.9	859	1	VCLJEW	env polyprotein pr
253	35	47.9	155	2	G72557	probable ribosomal	326	35	47.9	859	1	VCLJEW	env polyprotein pr
254	35	47.9	157	2	D83748	hypothetical prote	327	35	47.9	860	1	VCLJEW	sugar hydrolase ho
255	35	47.9	159	2	C49773	ecdysone-dependent	328	35	47.9	860	2	AF1128	sugar hydrolase ho
256	35	47.9	177	2	H92705	probable kinase fr	329	35	47.9	860	2	AF1128	E. coli ybpg protei
257	35	47.9	177	2	H92705	endonuclease prote	330	35	47.9	875	2	AB1125	E. coli ybpg protei
258	35	47.9	198	2	F69167	hypothetical prote	331	35	47.9	875	2	AB1125	conserved hypothet
259	35	47.9	206	2	H91229	probable phosphata	332	35	47.9	886	2	G95250	conserved hypothet
260	35	47.9	206	2	G86076	probable phosphata	333	35	47.9	886	2	G95250	sugar hydrolase [i
261	35	47.9	206	2	S40829	hypothetical 23.5K	334	35	47.9	886	2	D98115	sugar hydrolase [i
262	35	47.9	218	2	T50070	superoxide dismuta	335	35	47.9	894	2	B86812	hypothetical prote
263	35	47.9	222	2	H70978	hypothetical prote	336	35	47.9	934	2	B83789	hypothetical prote
264	35	47.9	233	2	E97062	glycerol uptake fa	337	35	47.9	941	2	D82599	hypothetical prote
265	35	47.9	241	2	T47752	superoxide dismuta	338	35	47.9	1000	2	C82630	serine proteinase
266	35	47.9	247	2	E71355	probable ribosomal	339	35	47.9	1004	2	T31665	hypothetical prote
267	35	47.9	253	2	E72302	esterase - Thermot	340	35	47.9	1248	2	G83378	cobalamin biosynth
268	35	47.9	258	2	A75140	hypothetical prote	341	35	47.9	1311	2	A56390	mannosyl-glycoprot
269	35	47.9	276	2	D83786	glycerol uptake fa	342	35	47.9	1312	2	E95006	beta-N-acetylhexos
270	35	47.9	305	2	H83518	probable short-cha	343	35	47.9	1312	2	E95006	beta-N-acetylhexos
271	35	47.9	306	2	AH1868	hypothetical prote	344	35	47.9	1477	2	AG3009	polyketide synthet
272	35	47.9	320	2	JC1311	cell protein precu	345	35	47.9	1480	2	T05566	hypothetical prote
273	35	47.9	339	1	I37195	AU-specific RNA-bi	346	35	47.9	1489	2	G98274	hypothetical prote
274	35	47.9	342	2	T23125	hypothetical prote	347	35	47.9	1544	2	T04464	hypothetical prote
275	35	47.9	345	2	T33357	hypothetical prote	348	34.5	47.3	63	2	B84293	hypothetical prote
276	35	47.9	351	1	A48763	transcription fact	349	34.5	47.3	96	4	OE6311	hypothetical prote
277	35	47.9	351	2	S39603	class I histocoma	350	34.5	47.3	142	2	S54232	ig mu heavy chain
278	35	47.9	356	2	S39605	class I histocoma	351	34.5	47.3	234	2	C83097	intra protein P437
279	35	47.9	356	2	C95161	hypothetical prote	352	34.5	47.3	337	1	C70473	phosphate-binding
280	35	47.9	361	2	AF0962	hypothetical prote	353	34.5	47.3	373	2	A71690	hypothetical prote
281	35	47.9	374	2	G70947	hypothetical prote	354	34.5	47.3	469	2	T34645	hypothetical prote
282	35	47.9	377	2	AH3328	NAD(PAD)-utilizing	355	34.5	47.3	501	2	B75004	thermostable carbo
283	35	47.9	377	2	A35795	carbonate dehydrat	356	34.5	47.3	515	2	C71158	probable thermosta
284	35	47.9	394	2	T19181	hypothetical prote	357	34.5	47.3	535	1	S00222	beta-amylase (EC 3
285	35	47.9	397	2	T19182	hypothetical prote	358	34.5	47.3	687	2	T02459	probable beta-amyl
286	35	47.9	398	2	E82262	hypothetical prote	359	34.5	47.3	987	2	A64474	hypothetical prote
287	35	47.9	399	2	T19180	hypothetical prote	360	34	46.6	76	2	H64393	hypothetical prote
288	35	47.9	404	2	A93277	hypothetical prote	361	34	46.6	80	2	S39779	aldehyde reductase
289	35	47.9	426	2	C69598	spore maturation p	362	34	46.6	121	2	S31104	ig heavy chain - su
290	35	47.9	436	2	T48331	hypothetical prote	363	34	46.6	125	2	I80184	AlR protein - rat
291	35	47.9	446	2	T48183	hypothetical prote	364	34	46.6	135	2	H70516	hypothetical prote
292	35	47.9	454	2	D82364	DNA-damage-inducib	365	34	46.6	147	2	AG3578	hypothetical prote
293	35	47.9	465	2	B83598	probable zinc prot	366	34	46.6	154	2	G96031	conserved hypothet
294	35	47.9	467	2	T34617	NADH2 dehydrogenas	367	34	46.6	156	2	T33725	ribonuclease H (EC
295	35	47.9	467	2	T26705	hypothetical prote	368	34	46.6	162	2	B86387	18.7K hypothetical
296	35	47.9	471	2	A41478	cytolysin vvhA pre	369	34	46.6	163	2	S67038	ribosomal protein
297	35	47.9	485	1	CSCKPT	catalase (EC 1.11.	370	34	46.6	170	2	AI2961	conserved hypothet
298	35	47.9	496	2	B83591	probable transport	371	34	46.6	173	2	D97263	galactose-6-phosph
299	35	47.9	524	2	G64243	hypothetical prote	372	34	46.6	175	2	B98321	hypothetical prote
300	35	47.9	531	2	E69471	cationic amino aci	373	34	46.6	178	2	F83776	hypothetical prote
301	35	47.9	538	2	A70485	single-strand-DNA-	374	34	46.6	181	2	AI2402	hypothetical prote
302	35	47.9	539	2	H84640	probable Rieske ir	375	34	46.6	185	2	T51003	hypothetical prote
303	35	47.9	551	1	HQDVLC	cytochrome-c3 hydr	376	34	46.6	185	2	B70755	probable lprB prot
304	35	47.9	553	2	T08499	Rieske [2Fe-2S] ir	377	34	46.6	185	2	C82739	conserved hypothet
305	35	47.9	564	2	AC2893	adenylate cyclase	378	34	46.6	188	2	E87048	probable lipoprote
306	35	47.9	564	2	F97668	probable electron	379	34	46.6	207	2	D64009	hypothetical prote
307	35	47.9	565	2	JF0338	Frizzled-2 protein	380	34	46.6	211	2	B84035	hypothetical prote
308	35	47.9	571	1	JN0858	chitinase (EC 3.2.	381	34	46.6	212	2	JA0152	glycinin chain A7
309	35	47.9	584	2	B91292	hypothetical prote	382	34	46.6	212	2	T49559	related to proline
310	35	47.9	584	2	E86133	hypothetical prote	383	34	46.6	220	2	T10279	protein tyrosine p
311	35	47.9	589	2	C70767	probable pknJ - My	384	34	46.6	221	2	F88082	protein T05A8.2 [i
312	35	47.9	597	1	S32039	chitinase (EC 3.2.	385	34	46.6	225	2	SI1430	proline-rich prote
313	35	47.9	610	2	T35797	secreted chitinase	386	34	46.6	226	2	D90887	nitrate reductase
314	35	47.9	640	2	T08179	LRGS protein - chl	387	34	46.6	226	2	B85730	cryptic nitrate re
315	35	47.9	650	2	JC7095	sodium-dependent v	388	34	46.6	226	2	AG0671	respiratory nitrat
316	35	47.9	687	2	D83547	hypothetical prote	389	34	46.6	226	2	B70732	hypothetical prote
317	35	47.9	708	2	G85518	protein T2E6.8 [im	390	34	46.6	230	2	B70732	glycerol uptake fa
318	35	47.9	749	2	T41072	hypothetical prote	391	34	46.6	233	2	S67937	glycerol uptake fa
319	35	47.9	850	2	C83081	probable oxidoredu	392	34	46.6	234	2	B72354	glycerol uptake fa
320	35	47.9	859	1	VCLJEW	env polyprotein pr	393	34	46.6	234	2	B95255	glycerol uptake fa
321	35	47.9	859	1	VCLJ22	env polyprotein pr	394	34	46.6	234	2	A99520	glycerol uptake fa

395 34 46.6 240 2 A13182 conserved hypothet
396 34 46.6 241 2 F91287 hypothet
397 34 46.6 241 2 A86129 hypothet
398 34 46.6 241 2 S56536 hypothet
399 34 46.6 242 2 AF2543 hypothet
400 34 46.6 245 2 D66780 glycerol uptake fa
401 34 46.6 247 2 G82202 hypothet
402 34 46.6 259 2 G95333 hypothet
403 34 46.6 271 2 S48426 RHR2 protein - yea
404 34 46.6 271 2 T50820 hypothet
405 34 46.6 273 2 AD0540 conserved hypothet
406 34 46.6 276 2 I40453 licheninase (EC 3.
407 34 46.6 278 2 T31942 hypothet
408 34 46.6 278 2 B82965 hypothet
409 34 46.6 279 2 AG3540 dihydrodipicolinat
410 34 46.6 279 2 S03804 hypothet
411 34 46.6 280 2 AE2031 gamma-tocopherol m
412 34 46.6 281 2 S26052 hypothet
413 34 46.6 289 2 A10770 DNA-3-methyladenin
414 34 46.6 298 2 S53849 ribosomal protein
415 34 46.6 302 2 H84329 hypothet
416 34 46.6 305 1 WMBP5 ribonucleoside-dip
417 34 46.6 305 2 S55855 ribonucleoside-dip
418 34 46.6 305 2 T425973 ribonucleoside-dip
419 34 46.6 308 2 G70842 hypothet
420 34 46.6 312 2 C71136 hypothet
421 34 46.6 315 1 A35452 aldehyde reductase
422 34 46.6 315 1 A39763 aldehyde reductase
423 34 46.6 316 1 A60603 aldehyde reductase
424 34 46.6 316 2 A59021 aldehyde reductase
425 34 46.6 316 2 I49484 aldehyde reductase
426 34 46.6 316 2 A53440 aldose reductase h
427 34 46.6 316 2 H95985 probable transcrip
428 34 46.6 317 2 S76618 hypothet
429 34 46.6 328 2 T28099 cytidine deaminase
430 34 46.6 337 2 T09925 hypothet
431 34 46.6 341 2 D87524 Gal-beta-1,3GalNac
432 34 46.6 342 2 S55875 GRP-binding protei
433 34 46.6 347 2 G82559 probable oligopept
434 34 46.6 347 2 A72618 hypothet
435 34 46.6 361 2 G87706 conserved hypothet
436 34 46.6 364 2 AE3117 hypothet
437 34 46.6 369 2 T16506 beta-lactamase (EC
438 34 46.6 377 1 QKEC beta-lactamase [im
439 34 46.6 377 2 C91270 beta-lactamase, pe
440 34 46.6 377 2 C86111 ubiquinol-cytochro
441 34 46.6 379 1 S43270 hypothet
442 34 46.6 397 2 H98169 hypothet
443 34 46.6 404 2 T19831 hypothet
444 34 46.6 421 2 C96642 conserved hypothet
445 34 46.6 428 2 G72037 CT648 hypothet
446 34 46.6 428 2 B86586 menaquinone-specif
447 34 46.6 435 2 B82135 hypothet
448 34 46.6 435 2 D71957 hypothet
449 34 46.6 435 2 B64658 probable RNA polym
450 34 46.6 436 2 E71493 hypothet
451 34 46.6 437 2 T26767 hypothet
452 34 46.6 438 2 A72430 hypothet
453 34 46.6 443 2 T05132 hypothet
454 34 46.6 447 2 G83324 probable two-compo
455 34 46.6 449 2 T02625 hypothet
456 34 46.6 475 2 G81227 probable amino-aci
457 34 46.6 480 2 AB0148 catalase (EC 1.11.
458 34 46.6 482 2 B83113 catalase PA4236 [i
459 34 46.6 487 2 S65133 butyrophilin - mou
460 34 46.6 489 2 B70613 hypothet
461 34 46.6 492 2 G70899 probable monooxyge
462 34 46.6 496 2 T37477 catalase (EC 1.11.
463 34 46.6 497 2 T42443 cell death suppress
464 34 46.6 499 2 AC2068 hypothet
465 34 46.6 502 2 T20130 catalase (EC 1.11.
466 34 46.6 505 1 CSB0 catalase
467 34 46.6 506 2 F83545 hypothet

468 34 46.6 512 2 T27178 catalase (EC 1.11.
469 34 46.6 524 2 T27177 catalase (EC 1.11.
470 34 46.6 532 2 T33461 hypothet
471 34 46.6 532 2 S46954 transposase - Caen
472 34 46.6 543 1 D65222 hypothet
473 34 46.6 543 2 C91267 two-component sens
474 34 46.6 543 2 H86107 probable 2-component
475 34 46.6 543 2 AH1023 two-component sens
476 34 46.6 544 2 T05952 Mlo-hi protein - b
477 34 46.6 578 2 AH1020 cytochrome c-type
478 34 46.6 592 2 B82498 sulfate permease f
479 34 46.6 621 2 G88755 protein mut-2 [imp
480 34 46.6 621 2 T15068 protein mut-2 - Ca
481 34 46.6 640 2 F89592 protein K0783.4b [i
482 34 46.6 649 2 AB2154 hypothet
483 34 46.6 650 2 S75072 probable phytone
484 34 46.6 662 2 B75544 arginine decarboxy
485 34 46.6 687 2 SI2339 immune inhibitor A
486 34 46.6 728 2 T16863 hypothet
487 34 46.6 776 2 T29054 hyaluronate lyase
488 34 46.6 838 2 T20125 hypothet
489 34 46.6 860 2 F71000 hypothet
490 34 46.6 864 2 JC4624 alpha-glucosidase
491 34 46.6 868 2 A32304 autotransporter pr
492 34 46.6 873 2 B86471 hypothet
493 34 46.6 911 2 D90572 conserved hypothet
494 34 46.6 932 2 G85263 hypothet
495 34 46.6 1012 2 T09339 hypothet
496 34 46.6 1068 2 T42382 guanylate cyclase
497 34 46.6 1111 2 T09441 126K pathogenicity
498 34 46.6 1112 2 D82276 probable inner mem
499 34 46.6 1197 2 D82636 hypothet
500 34 46.6 1230 2 S47466 cellulose 1,4-beta

ALIGNMENTS

RESULT 1

RHAQ2

Gonadoliberin II - American alligator
N:Alternate names: gonadotropin-releasing hormone II
C:Species: Alligator mississippiensis (American alligator)
C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Mar-1997
C:Accession: B60066
R:Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, V.; Swanson
Regul. Pept. 33, 105-116, 1991
A:Title: Primary structure of two forms of gonadotropin-releasing hormone from brains of
A:Reference number: A60066; MUID:91352338; PMID:1882082

A:Molecule type: protein

A:Residues: 1-10 <LOV>

C:Superfamily: Gonadoliberin

C:Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid

F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

F:10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 95.9%; Score 70; DB 1; Length 10;

Best Local Similarity 90.0%; Pred. No. 0.00015;

Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10

Db 1 QHWSHGWYPG 10

RESULT 2

A61126

Gonadoliberin - spotted ratfish

N:Alternate names: gonadotropin-releasing hormone

C:Species: Hydrolagus colliei (spotted ratfish)

C:Date: 26-May-1994 #sequence_revision 26-May-1994 #text_change 18-Mar-1997

C:Accession: A61126

R;Lovejoy, D.A.; Sherwood, N.M.; Fischer, W.H.; Jackson, B.C.; Rivier, J.E.; Lee, T.
Gen. Comp. Endocrinol. 82, 152-161, 1991
A:Title: Primary structure of gonadotropin-releasing hormone from the brain of a holocarp
A:Reference number: A61126; MUID:191340067; PMID:1678723
A:Accession: A61126
A:Molecule type: protein
A:Residues: 1-10 <LOV>
A:Experimental source: brain
A:Superfamily: gonadoliberin
C:Keywords: amidated carboxyl end; brain; hormone; pyroglutamic acid
F:10/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F:10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 95.9%; Score 70; DB 1; Length 10;
Best Local Similarity 90.0%; Pred. No. 0.00015;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 1 QHWSHGWPY 10

RESULT 3
B46030
Gonadoliberin II - spiny dogfish
N:Alternate names: gonadotropin-releasing hormone
C:Species: Squalus acanthias (spiny dogfish)
C:Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 20-Jan-2003
C:Accession: B46030
R;Lovejoy, D.A.; Fischer, W.H.; Ngamvongchon, S.; Craig, A.G.; Nahorniak, C.S.; Peter, R.
Proc. Natl. Acad. Sci. U.S.A. 89, 6373-6377, 1992
A:Title: Distinct sequence of gonadotropin-releasing hormone (GnRH) in dogfish brain pro
A:Reference number: A46030; MUID:92335300; PMID:1631133
A:Accession: B46030
A:Status: preliminary
A:Molecule type: protein
A:Residues: 1-10 <LOV>
A:Superfamily: gonadoliberin
C:Keywords: hormone; pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

Query Match 95.9%; Score 70; DB 2; Length 10;
Best Local Similarity 90.0%; Pred. No. 0.00015;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 1 QHWSHGWPY 10

RESULT 4
JC7394
Chicken-II-type gonadotropin-releasing hormone precursor - Japanese medaka
C:Species: Oryzias latipes (Japanese medaka)
C:Date: 17-Nov-2000 #sequence_revision 17-Nov-2000 #text_change 20-Jan-2003
C:Accession: JC7394
R;Okubo, K.; Amano, M.; Yoshiura, Y.; Suetake, H.; Aida, K.
Biochem. Biophys. Res. Commun. 276, 298-303, 2000
A:Title: A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipes.
A:Reference number: JC7393
A:Contents: Brain
A:Accession: JC7394
A:Molecule type: mRNA
A:Residues: 1-80 <OKU>
A:Cross-references: DDBJ:AB041330
C:Comment: This protein with the roles as the physiologic regulator of gonadotropin rele
C:Genetics:
A:Gene: cgnrh-II
C:Superfamily: gonadoliberin
C:Keywords: brain

Query Match 95.9%; Score 70; DB 2; Length 80;
Best Local Similarity 90.0%; Pred. No. 0.0012;

QY 1 EHWSHGWYPG 10
:|||||
Db 25 QHWSHGWPY 34

Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 22 QHWSHGWPY 31

RESULT 5
A53453
gonadoliberin II precursor - Cichlid (Haplochromis burtoni)
C:Species: Haplochromis burtoni
C:Date: 25-Aug-1995 #sequence_revision 25-Aug-1995 #text_change 16-Jul-1999
C:Accession: A53453
R;White, S.A.; Bond, C.T.; Francis, R.C.; Kasten, T.L.; Fernald, R.D.; Adelman, J.P.
Proc. Natl. Acad. Sci. U.S.A. 91, 1423-1427, 1994
A:Title: A second gene for gonadotropin-releasing hormone: cDNA and expression pattern i
A:Reference number: A53453; MUID:94151343; PMID:8108425
A:Accession: A53453
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-85 <WHI>
A:Cross-references: GB:L27435; NID:G439868; PIDN:AAA74993.1; PID:G439869
C:Superfamily: gonadoliberin
C:Keywords: brain; hormone

Query Match 95.9%; Score 70; DB 2; Length 85;
Best Local Similarity 90.0%; Pred. No. 0.0012;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 24 QHWSHGWPY 33

RESULT 6
RHID2S
gonadoliberin II precursor - sharptooth catfish
N:Alternate names: gonadoliberin, chicken-type; gonadotropin-releasing hormone II (GnRH-
N:Contains: gonadoliberin II; gonadoliberin II-associated protein
C:Species: Clarias gariepinus (sharptooth catfish)
C:Date: 30-Sep-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C:Accession: S45600; JCI243; S42935
R;Boiger, J.; Zandbergen, T.; Andersson, E.; Goos, H.
Eur. J. Biochem. 222, 541-549, 1994
A:Title: Isolation, characterization and expression of cDNAs encoding the catfish-type a
A:Reference number: S45600; MUID:94291651; PMID:8020492
A:Accession: S45600
A:Molecule type: mRNA
A:Residues: 1-86 <BOGL>
A:Cross-references: EMBL:X78047; NID:G459429; PIDN:CAA54969.1; PID:G459430
R;Boiger, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos, H.
Biochem. Biophys. Res. Commun. 187, 127-134, 1992
A:Title: Two gonadotropin-releasing hormones from African catfish (Clarias gariepinus).
A:Reference number: JCI242; MUID:92392313; PMID:1520292
A:Accession: JCI243
A:Molecule type: protein
A:Residues: 25-34 <BOG2>
A:Experimental source: brain
C:Superfamily: gonadoliberin
C:Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F:1-24/Domain: signal sequence #status predicted <SIG>
F:25-34/Product: gonadoliberin II #status experimental <MAT1>
F:38-86/Product: gonadoliberin II-associated protein #status predicted <MAT2>
F:25/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen
F:34/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 95.9%; Score 70; DB 1; Length 86;
Best Local Similarity 90.0%; Pred. No. 0.0013;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 25 QHWSHGWPY 34

```
RESULT 7
A46030
gonadoliberin I - spiny dogfish
N:Alternate names: gonadotropin-releasing hormone
C:Species: Squalus acanthias (spiny dogfish)
C>Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Dec-1998
C:Accession: A46030
R:Lovejoy, D.A.; Fischer, W.H.; Neamvongchon, S.; Craig, A.G.; Nahorniak, C.S.; Peter, R.
Proc. Natl. Acad. Sci. U.S.A. 89, 6373-6377, 1992
A:Title: Distinct sequence of gonadotropin-releasing hormone (GnRH) in dogfish brain pro
A:Reference number: A46030; MUID:92335300; PMID:1631133
A:Accession: A46030
A>Status: preliminary
A:Molecule type: protein
A:Residues: 1-10 <LOV>
C:Keywords: hormone; pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

Query Match      84.9%; Score 52; DB 2; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.0022;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 1 QHWSHGWLPG 10

RESULT 8
A49187
gonadotropin-releasing hormone III - sea lamprey
C:Species: Petromyzon marinus (sea lamprey)
C>Date: 19-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 03-Mar-1995
C:Accession: A49187
R:Sower, S.A.; Chiang, Y.C.; Lovas, S.; Conlon, J.M.
Endocrinology 132, 1125-1131, 1993
A:Title: Primary structure and biological activity of a third gonadotropin-releasing hor
A:Reference number: A49187; MUID:93178316; PMID:8440174
A:Accession: A49187
A>Status: preliminary
A:Molecule type: protein
A:Residues: 1-10 <SOW>
A:Experimental source: brain
A>Note: sequence extracted from NCBI backbone (NCBIP:126381)

Query Match      78.1%; Score 57; DB 2; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.012;
Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 1 EHWSHDWKPG 10

RESULT 9
A21114
gonadoliberin - chum salmon
C:Species: Oncorhynchus keta (chum salmon)
C>Date: 10-Aug-1990 #sequence_revision 10-Aug-1990 #text_change 18-Jun-1993
C:Accession: A21114
R:Sherwood, N.; Eiden, L.; Brownstein, M.; Spiess, J.; Rivier, J.; Vale, W.
Proc. Natl. Acad. Sci. U.S.A. 80, 2794-2798, 1983
A:Title: Characterization of a teleost gonadotropin-releasing hormone.
A:Reference number: A21114; MUID:83195140; PMID:6341999
A:Accession: A21114
A>Status: preliminary
A:Molecule type: protein
A:Residues: 1-10 <SHE>

Query Match      76.7%; Score 56; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.016;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
```

```
QY 1 EHWSHGWYPG 10
:|||||
Db 1 QHWSYGWLPG 10

RESULT 10
I51092
gonadotropin releasing hormone - chinook salmon (fragment)
C:Species: Oncorhynchus tshawytscha (chinook salmon)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Aug-1997
C:Accession: I51092
R:Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A:Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A:Reference number: I51040; MUID:92267241; PMID:1587389
A:Accession: I51092
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-74 <KLU>
A:Cross-references: EMBL:X79711; NID:G499322; PID:G499323
C:Genetics:
A:Gene: GnRH
A:Introns: 38/3; 65/3

Query Match      76.7%; Score 56; DB 2; Length 74;
Best Local Similarity 70.0%; Pred. No. 0.12;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 16 QHWSYGWLPG 25

RESULT 11
I51180
gonadotropin-releasing hormone - cherry salmon
C:Species: Oncorhynchus masou (cherry salmon)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 20-Jan-2003
C:Accession: I51180
R:Suzuki, M.; Hyodo, S.; Kobayashi, M.; Aida, K.; Urano, A.
J. Mol. Endocrinol. 9, 73-82, 1992
A:Title: Characterization and localization of mRNA encoding the salmon-type gonadotropi
A:Reference number: I51180; MUID:923384893; PMID:1515027
A:Accession: I51180
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-82 <SUZ>
A:Cross-references: GB:S44614; NID:G254824; PID:G254825
C:Superfamily: gonadoliberin

Query Match      76.7%; Score 56; DB 2; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.13;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
:|||||
Db 24 QHWSYGWLPG 33

RESULT 12
I51355
gonadotropin releasing hormone - Atlantic salmon
C:Species: Salmo salar (Atlantic salmon)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C:Accession: I51355
R:Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A:Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A:Reference number: I51040; MUID:92267241; PMID:1587389
A:Accession: I51355
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
```

A;Residues: 1-82 <KLU>
A;Cross-references: EMBL:X79709; NID:G499341; PID:G499342
A;Accession: I51355
A;Status: preliminary; translated from GB/EMBL/DBDJ
A;Molecule type: DNA
A;Residues: 1-82 <KL2>
A;Cross-references: EMBL:X74957; NID:G402786; PIDN:CAA52912.1; PID:G402787
C;Genetics:
A;Gene: GNRH
A;Introns: 46/3; 73/3

Query Match 76.7%; Score 56; DB 2; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.13;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWPYG 10
:|||||
Db 24 QHWSYGLPG 33

RESULT 13
I51365
gonadotropin-releasing hormone - brown trout
C;Species: Salmo trutta (brown trout)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
A;Accession: I51365
R;Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A;Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A;Reference number: I51040; MUID:192267241; PMID:1587389
A;Accession: I51365
A;Status: preliminary; translated from GB/EMBL/DBDJ
A;Molecule type: DNA
A;Residues: 1-82 <KLU>
A;Cross-references: EMBL:X79713; NID:G499343; PIDN:CAA56152.1; PID:G499344
C;Genetics:
A;Gene: GNRH
A;Introns: 46/3; 73/3

Query Match 76.7%; Score 56; DB 2; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.13;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWPYG 10
:|||||
Db 24 QHWSYGLPG 33

RESULT 14
I51331
gonadotropin releasing hormone - brook trout
C;Species: Salvelinus fontinalis (brook trout)
C;Date: 04-Sep-1997 #sequence_revision 04-Sep-1997 #text_change 05-Nov-1999
A;Accession: I51331
R;Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A;Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A;Reference number: I51040; MUID:192267241; PMID:1587389
A;Accession: I51331
A;Status: preliminary; translated from GB/EMBL/DBDJ
A;Molecule type: DNA
A;Residues: 1-82 <KLU>
A;Cross-references: EMBL:X79712; NID:G499336; PIDN:CAA56151.1; PID:G499337
C;Genetics:
A;Gene: GNRH
A;Introns: 46/3; 73/3

Query Match 76.7%; Score 56; DB 2; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.13;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWPYG 10
:|||||

Db 24 QHWSYGLPG 33

RESULT 15
JC7395
salmon-type gonadotropin-releasing hormone precursor - Japanese medaka
C;Species: Oryzias latipes (Japanese medaka)
C;Date: 17-Nov-2000 #sequence_revision 17-Nov-2000 #text_change 17-Nov-2000
A;Accession: JC7395
R;Okubo, K.; Amano, M.; Yoshiura, Y.; Suetake, H.; Aida, K.
Biochem. Biophys. Res. Commun. 276, 298-303, 2000
A;Title: A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipes.
A;Reference number: JC7393
A;Contents: Brain
A;Accession: JC7395
A;Molecule type: mRNA
A;Residues: 1-90 <OKU>
A;Cross-references: DDBJ:AB041331
C;Comment: This protein with the roles as the physiologic regulator of gonadotropin rele.
C;Genetics:
A;Gene: sgnrh
C;Keywords: brain

Query Match 76.7%; Score 56; DB 2; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.14;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWPYG 10
:|||||
Db 24 QHWSYGLPG 33

RESULT 16
A23735
gonadoliberin precursor - Cichlid (Haplochromis burtoni)
C;Species: Haplochromis burtoni
C;Date: 30-Dec-1991 #sequence_revision 30-Dec-1991 #text_change 18-Jun-1993
A;Accession: A23735
R;Bond, C.T.; Francis, R.C.; Fernald, R.D.; Adelman, J.P.
Mol. Endocrinol. 5, 931-937, 1991
A;Title: Characterization of complementary DNA encoding the precursor for gonadotropin-releasing hormone in the cichlid, Haplochromis burtoni.
A;Reference number: A23735; MUID:92049375; PMID:1944299
A;Accession: A23735
A;Status: preliminary; not compared with conceptual translation
A;Molecule type: mRNA
A;Residues: 1-90 <BON>
F;24-33/Product: gonadoliberin #status predicted <GLB>

Query Match 76.7%; Score 56; DB 2; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.14;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWPYG 10
:|||||
Db 24 QHWSYGLPG 33

RESULT 17
I51095
gonadoliberin precursor - red sea bream
N;Alternate names: prepro-sgnrh
C;Species: Chrysophrys major (red sea bream)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
A;Accession: I51095
R;Okuzawa, K.; Araki, K.; Tanaka, H.; Kagawa, H.; Hirose, K.
Gen. Comp. Endocrinol. 96, 234-242, 1994
A;Title: Molecular cloning of a cDNA encoding the prepro-salmon gonadotropin-releasing hormone in the red sea bream, Chrysophrys major.
A;Reference number: I51095; MUID:95154651; PMID:7851723
A;Accession: I51095
A;Status: preliminary; translated from GB/EMBL/DBDJ
A;Molecule type: mRNA
A;Residues: 1-90 <OKU>
A;Cross-references: GB:D26108; NID:G685222; PIDN:BA05104.1; PID:G685223

Query Match 76.7%; Score 56; DB 2; Length 90;
 Best Local Similarity 70.0%; Pred. No. 0.14;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
 :|||||
 DB 24 QHWSYGLWPG 33
 :|||||

RESULT 18
 RH1D1S
 Gonadoliberin I precursor - sharptooth catfish
 N:Alternate names: gonadoliberin, catfish-type; gonadotropin-releasing hormone I (GRH-I)
 N:Contents: gonadoliberin I; gonadoliberin I-associated protein form I; gonadoliberin I-
 C:Species: Clarias gariepinus (sharptooth catfish)
 C:Date: 30-Sep-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
 C:Accession: S45602; S45601; JCI1242; S42936; S42937
 R:Bogerd, J.; Zandbergen, T.; Andersen, E.; Goos, H.
 Eur. J. Biochem. 222, 541-549, 1994
 A:Title: Isolation, characterization and expression of cDNAs encoding the catfish-type a
 A:Reference number: S45600; MUID:94291651; PMID:8020492
 A:Accession: S45602
 A:Molecule type: mRNA
 A:Residues: 1-80 <BOG1>
 A:Cross-references: EMBL:X78049; NID:9459433; PIDN:CAA54971.1; PID:g459434
 A:Note: Gonadoliberin I-associated protein form I
 A:Accession: S45601
 A:Molecule type: mRNA
 A:Residues: 1-46, 'S', '48-59', 'G', '61-80 <BOG2>
 A:Cross-references: EMBL:X78048; NID:9459431; PIDN:CAA54970.1; PID:g459432
 A:Note: Gonadoliberin I-associated protein form II, presumed to be a polymorphic form
 R:Bogerd, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos, H.
 Biochem. Biophys. Res. Commun. 187, 127-134, 1992
 A:Title: Two gonadotropin-releasing hormones from African catfish (Clarias gariepinus).
 A:Reference number: JCI1242; MUID:92392313; PMID:1520292
 A:Accession: JCI1242
 A:Molecule type: protein
 A:Residues: 22-31 <BOG3>
 A:Experimental source: brain
 C:Superfamily: gonadoliberin
 C:Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
 F:1-31/Domain: signal sequence #status predicted <Sig>
 F:12-31/Product: gonadoliberin I #status experimental <MAR1>
 F:35-80/Product: gonadoliberin I-associated protein #status predicted <MAR2>
 F:22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen
 F:31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 65.8%; Score 48; DB 1; Length 80;
 Best Local Similarity 70.0%; Pred. No. 1.9;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
 :|||||
 DB 22 QHWSYGLWPG 31
 :|||||

RESULT 19
 H59043
 conserved hypothetical protein MTH1330 - Methanobacterium thermoautotrophicum (strain De
 C:Species: Methanobacterium thermoautotrophicum
 C:Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 22-Oct-1999
 C:Accession: H59043
 R:Smith, D.R.; Doucette-Stamm, L.A.; Deloughery, C.; Lee, H.; Dubois, J.; Aldredge, T.;
 Qiu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiawani, N.
 K. S.; Church, G.M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N.
 J. Bacteriol. 179, 7135-7155, 1997
 A:Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: funct
 A:Reference number: A69000; MUID:98037514; PMID:9371463
 A:Accession: H59043
 A:Status: preliminary; nucleic acid sequence not shown; translation not shown
 A:Molecule type: DNA
 A:Residues: 1-319 <MTH>

A:Cross-references: GB:AE000896; GB:AE000666; NID:g2622424; PIDN:AAB585808.1; PID:g2622443
 A:Experimental source: strain Delta H
 C:Genetics:
 A:Gene: MTH1330

Query Match 65.1%; Score 47.5; DB 2; Length 319;
 Best Local Similarity 87.5%; Pred. No. 8.8;
 Matches 7; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HWSHGWP 9
 :|||||
 DB 256 HW-HGWYP 262
 :|||||

RESULT 20
 A69088
 conserved hypothetical protein MTH1653 - Methanobacterium thermoautotrophicum (strain De
 C:Species: Methanobacterium thermoautotrophicum
 C:Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 22-Oct-1999
 C:Accession: A69088
 R:Smith, D.R.; Doucette-Stamm, L.A.; Deloughery, C.; Lee, H.; Dubois, J.; Aldredge, T.;
 Qiu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiawani, N.
 K. S.; Church, G.M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N.
 J. Bacteriol. 179, 7135-7155, 1997
 A:Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: funct
 A:Reference number: A69000; MUID:98037514; PMID:9371463
 A:Accession: A69088
 A:Status: preliminary; nucleic acid sequence not shown; translation not shown
 A:Molecule type: DNA
 A:Residues: 1-321 <MTH>
 A:Cross-references: GB:AE000924; GB:AE000666; NID:g2622777; PIDN:AAB56125.1; PID:g2622727
 A:Experimental source: strain Delta H
 C:Genetics:
 A:Gene: MTH1653
 A:Start codon: GTG

Query Match 65.1%; Score 47.5; DB 2; Length 321;
 Best Local Similarity 87.5%; Pred. No. 8.8;
 Matches 7; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HWSHGWP 9
 :|||||
 DB 258 HW-HGWYP 264
 :|||||

RESULT 21
 E90968
 probable tail fiber protein [imported] - Escherichia coli (strain O157:H7, substrain RM
 C:Species: Escherichia coli
 C:Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 17-May-2002
 C:Accession: E90968
 R:Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G.
 gasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hatatori, M.; Shingawa, H.
 DNA Res. 8, 11-22, 2001
 A:Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and genc
 A:Reference number: A99629; MUID:21156231; PMID:11258796
 A:Accession: E90968
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-437 <RAY>
 A:Cross-references: GB:BA000007; PIDN:BA36140.1; PID:gl3362185; GSPDB:GN00154
 A:Experimental source: strain O157:H7, substrain RIMD 0509952
 C:Genetics:
 A:Gene: ECs2717
 C:Superfamily: phage lambda hypothetical protein 401

Query Match 61.6%; Score 45; DB 2; Length 437;
 Best Local Similarity 85.7%; Pred. No. 28;
 Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 4 SHGWYPG 10
 :|||||
 DB 377 SHGWYPG 383
 :|||||

RESULT 22

H90854 Probable tail fiber protein [imported] - Escherichia coli (strain O157:H7, substrain RIM

C;Species: Escherichia coli

C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 03-Jun-2002

C;Accession: H90854

R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G.

gaasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H.

DNA Res. 8, 11-22, 2001

A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and gen

A;Reference number: A99629; PMID:21156231; PMID:11258796

A;Accession: H90854

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-437 <HAY>

A;Cross-references: GB:BA000007; PIDN:BA035231.1; PID:G13361273; GSPDB:GN00154

A;Experimental source: strain O157:H7, substrain RIMD 0509952

C;Genetics:

A;Gene: ECs1808

C;Superfamily: phage lambda hypothetical protein 401

Query Match 61.6%; Score 45; DB 2; Length 437;

Best Local Similarity 85.7%; Pred. No. 28;

Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 4 SHGWYPG 10

DB 377 SHGWFFG 383

RESULT 23

C90769 Probable tail fiber protein [imported] - Escherichia coli (strain O157:H7, substrain RIM

C;Species: Escherichia coli

C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 17-May-2002

C;Accession: C90769

R;Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G.

gaasawara, N.; Yasunaga, T.; Kuhara, S.; Shiba, T.; Hattori, M.; Shinagawa, H.

DNA Res. 8, 11-22, 2001

A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and gen

A;Reference number: A99629; PMID:21156231; PMID:11258796

A;Accession: C90769

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-439 <HAY>

A;Cross-references: GB:BA000007; PIDN:BA034546.1; PID:G13360583; GSPDB:GN00154

A;Experimental source: strain O157:H7, substrain RIMD 0509952

C;Genetics:

A;Gene: ECs1123

C;Superfamily: phage lambda hypothetical protein 401

Query Match 61.6%; Score 45; DB 2; Length 439;

Best Local Similarity 85.7%; Pred. No. 28;

Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 4 SHGWYPG 10

DB 379 SHGWFFG 385

RESULT 24

E85816 Probable tail fiber protein of prophage CP-933U Z3074 [imported] - Escherichia coli (str

C;Species: Escherichia coli

C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 17-May-2002

C;Accession: E85816

R;Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew

iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodaca,

Nature 409, 529-533, 2001

A;Title: Genome sequence of enterohemorrhagic Escherichia coli O157:H7.

A;Reference number: A85480; PMID:21074935; PMID:11206551

A;Accession: E85816

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-437 <HAY>

A;Cross-references: EMBL:X69491; NID:G496326; PIDN:CAA49246.1; PID:G311612

A;Experimental source: strain O157:H7, substrain EDL933

C;Genetics:

A;Gene: Z3074

C;Superfamily: phage lambda hypothetical protein 401

Query Match 61.6%; Score 45; DB 2; Length 439;

Best Local Similarity 85.7%; Pred. No. 28;

Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 4 SHGWYPG 10

DB 379 SHGWFFG 385

RESULT 25

RHAQ1 gonadoliberin I - American alligator

N;Alternate names: gonadotropin-releasing hormone I

C;Species: Alligator mississippiensis (American alligator)

C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Mar-1997

C;Accession: A60066

R;Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, V.; Swanson

Regul. Pept. 33, 105-116, 1991

A;Title: Primary structure of two forms of gonadotropin-releasing hormone from brains of

A;Reference number: A60066; MUID:91352338; PMID:1882082

A;Accession: A60066

A;Molecule type: protein

A;Residues: 1-10 <LOW>

C;Superfamily: gonadoliberin

C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid

F;1/Modified site: pyroglutamate carboxylic acid (Gln) #status experimental

F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 58.9%; Score 43; DB 1; Length 10;

Best Local Similarity 60.0%; Pred. No. 1.3;

Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10

DB 1 QHWSYGLQPG 10

RESULT 26

I50644 gonadoliberin I precursor - chicken

N;Alternate names: gonadotropin-releasing hormone I

C;Species: Gallus gallus (chicken)

C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999

C;Accession: I50644; S33507

R;Dunn, I.C.; Chen, Y.; Hook, C.; Sharp, P.J.; Sang, H.M.

J. Mol. Endocrinol. 11, 19-29, 1993

A;Title: Characterization of the chicken preprogonadotropin-releasing hormone-I gene.

A;Reference number: I50644; MUID:94059355; PMID:7902095

A;Accession: I50644

A;Status: translated from GB/EMBL/DDBJ

A;Molecule type: DNA

A;Residues: 1-92 <DU2>

A;Cross-references: EMBL:X69491; NID:G496326; PIDN:CAA49246.1; PID:G311612

A;Experimental source: strain O157:H7, substrain EDL933

C;Genetics:

A;Gene: 47/3; 79/3

C;Superfamily: gonadoliberin

Query Match 58.9%; Score 43; DB 2; Length 92;

Best Local Similarity 60.0%; Pred. No. 1.1;

Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10

DB 1 QHWSYGLQPG 10

Db 24 QHWSYGLQPG 33

RESULT 27

A:Accession: A11880

A:Title: aminopeptidase [imported] - Nostoc sp. (strain PCC 7120)

C:Species: Nostoc sp. PCC 7120

C:Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 03-Dec-2002

C:Accession: A11880

R:Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S.

A:Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Anabaena PCC 7120

A:Reference number: AB1807; MUID:21595285; PMID:11759840

A:Accession: A11880

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1-866 <KUR>

A:Cross-references: GB:BA000019; PIDN:BA072552.1; PID:gl7129940; GSPDB:GN00179

A:Experimental source: strain PCC 7120

C:Genetics:

A:Gene: all0594

Query Match 58.9%; Score 43; DB 2; Length 866;

Best Local Similarity 71.4%; Pred. No. 1.1e+02;

Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGW 7

Db 325 KHWSHAW 331

RESULT 28

S76720

A:Title: hypothetical protein - Synecocystis sp. (strain PCC 6803)

C:Species: Synecocystis sp.

A:Variety: PCC 6803

C:Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 08-Oct-1999

C:Accession: S76720

R:Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, N.; Ogasawara, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda, C. K.; Okumura, S.

A:Title: Sequence analysis of the genome of the unicellular cyanobacterium Synecocystis sp. PCC 6803

A:Reference number: S74322; MUID:37061201; PMID:8905231

A:Accession: S76720

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1-869 <KAN>

A:Cross-references: ENBL:D90916; GB:AB001339; MUID:gl653715; PIDN:BAA18632.1; PID:dl01936

A:Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1996

Query Match 58.9%; Score 43; DB 2; Length 869;

Best Local Similarity 71.4%; Pred. No. 1.1e+02;

Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGW 7

Db 323 KHWSHAW 329

RESULT 29

AE1416

A:Title: sugar hydrolase homolog lmo2734 [imported] - Listeria monocytogenes (strain EGD-e)

C:Species: Listeria monocytogenes

C:Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001

C:Accession: AE1416

R:Glaser, P.; Prangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloeker, H.; Dominguez-Bernal, G.; Duchaud, E.; Durand, L.; Dussurget, O.; Entian, K.D.; Fsihi, H.; Jones, L.M.; Karst, U.

A:Title: Primary structure of the ovine hypothalamic luteinizing hormone-releasing factor (LRF) gene

A:Reference number: A93780; MUID:72094314; PMID:4550508

A:Accession: A93780

A:Molecule type: protein

A:Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; Ma

ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehland, A.; Title: Comparative genomics of Listeria species.

A:Reference number: AB1077; MUID:21537279; PMID:11579669

A:Accession: AE1416

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1-882 <GLA>

A:Cross-references: GB:NC_003210; PIDN:CAD00947.1; PID:gl6412234; GSPDB:GN00177

A:Experimental source: strain EGD-e

C:Genetics:

A:Gene: lmo2734

Query Match 58.9%; Score 43; DB 2; Length 882;

Best Local Similarity 71.4%; Pred. No. 1.1e+02;

Matches 5; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 EHWSHGW 8

Db 14 EHWDEHY 20

RESULT 30

RHPGG

A:Title: gonadoliberin - pig

C:Species: Sus scrofa domestica (domestic pig)

C:Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 18-Mar-1997

C:Accession: A01411

R:Baba, Y.; Matsuo, H.; Schally, A.V.

A:Title: Biochem. Biophys. Res. Commun. 44, 459-463, 1971

A:Title: Structure of the porcine LH- and FSH-releasing hormone. II. Confirmation of the

A:Reference number: A90172; MUID:72114303; PMID:4946067

A:Accession: A01411

A:Molecule type: protein

A:Residues: 1-10 <BAB>

R:Matsuo, H.; Arimura, A.; Nair, R.M.G.; Schally, A.V.

A:Title: Biochem. Biophys. Res. Commun. 45, 822-827, 1971

A:Title: Synthesis of the porcine LH- and FSH-releasing hormone by the solid-phase method

A:Reference number: A90176; MUID:72065376; PMID:4942726

A:Contents: annotation; synthesis

A:Note: the synthetic and natural hormones have the same physicochemical and biological

R:Baba, Y.; Arimura, A.; Schally, A.V.

A:Title: Biochem. Biophys. Res. Commun. 45, 483-487, 1971

A:Title: On the tryptophan residue in porcine LH and FSH-releasing hormone.

A:Reference number: A90175; MUID:72117544; PMID:4946275

A:Contents: annotation

A:Note: Trp-3 appears to be essential for biological activity

C:Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and follicle-stimulating hormones

C:Superfamily: gonadoliberin

C:Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid

F:1/Modified site: pyroglutamate carboxylic acid (Gln) #status experimental

F:10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 57.5%; Score 42; DB 1; Length 10;

Best Local Similarity 60.0%; Pred. No. 1.8;

Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWPG 10

Db 1 QHWSYGLRPG 10

RESULT 31

RHSNG

A:Title: gonadoliberin - sheep

C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C:Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-Mar-1997

C:Accession: A93780; A01411

R:Burgus, R.; Butcher, M.; Amoss, M.; Ling, N.; Monahan, M.; Rivier, J.; Fellows, R.; Bl

A:Title: Primary structure of the ovine hypothalamic luteinizing hormone-releasing factor

A:Reference number: A93780; MUID:72094314; PMID:4550508

A:Accession: A93780

A:Molecule type: protein

A:Residues: 1-10 <SUR>
A:Note: the natural and synthetic hormones have the same biological activity
C:Comment: this hypothalamic hormone stimulates the secretion of both luteinizing and follicle stimulating hormone
C:Superfamily: gonadoliberin
C:Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F:10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 57.5%; Score 42; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 1.8; Mismatches 2; Indels 0; Gaps 0;
Matches 6; Conservative

Qy 1 EHWSHGWYPG 10
Db 1 QHWSYGLRPG 10

RESULT 32
I78541
gonadoliberin precursor - rhesus macaque (fragment)
N:Alternate names: luteinizing hormone releasing hormone
C:Species: Macaca mulatta (rhesus macaque)
C:Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C:Accession: I78541
R:Ma, Y.J.; Costa, M.E.; Ojeda, S.R.
Neuroendocrinology 60, 346-359, 1994
A:Title: Developmental expression of the genes encoding transforming growth factor alpha and beta in the developing rhesus macaque
A:Reference number: I58134; MUID:95124501; PMID:7545971
A:Accession: I78541
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-67 <RES>
A:Cross-references: GB:S75918; NID:9912831; PIDN:AA833096.1; PID:9912832
C:Superfamily: gonadoliberin

Query Match 57.5%; Score 42; DB 2; Length 67;
Best Local Similarity 60.0%; Pred. No. 12; Mismatches 2; Indels 0; Gaps 0;
Matches 6; Conservative

Qy 1 EHWSHGWYPG 10
Db 6 QHWSYGLRPG 15

RESULT 33
A24303
Na+/K+-exchanging ATPase (EC 3.6.3.9) beta chain - dog (fragments)
N:Alternate names: sodium pump beta chain; sodium/potassium-dependent pump beta chain
C:Species: Canis lupus familiaris (dog)
C:Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 19-Apr-2002
C:Accession: A24303
R:Ohta, T.; Yoshida, M.; Nagano, K.; Hirano, H.; Kawamura, M.
FEBS Lett. 204, 297-301, 1986
A:Title: Structure of the extra-membraneous domain of the beta-subunit of (Na,K)-ATPase from dog erythrocytes
A:Reference number: A24303; MUID:86275272; PMID:3015682
A:Accession: A24303
A:Molecule type: protein
A:Residues: 1-71 <OH>
C:Superfamily: Na+/K+-transporting ATPase beta chain
C:Keywords: hydrolase

Query Match 57.5%; Score 42; DB 2; Length 71;
Best Local Similarity 60.0%; Pred. No. 12; Mismatches 2; Indels 0; Gaps 0;
Matches 6; Conservative

Qy 1 EHWSHGWYPG 10
Db 61 EYFGLGWYPG 70

RESULT 34
I51423
gonadoliberin precursor - African clawed frog

N:Alternate names: luteinizing hormone releasing hormone
C:Species: Xenopus laevis (African clawed frog)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I51423
R:Hayes, W.P.; Wray, S.; Battey, J.F.
Endocrinology 134, 1835-1845, 1994
A:Title: The frog GnRH-I gene has a mammalian-like expression pattern and conserved domain
A:Reference number: I51423; MUID:94185563; PMID:8137750
A:Accession: I51423
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-89 <HAY>
A:Cross-references: GB:IL28040; NID:G496291; PIDN:AAA49728.1; PID:G496292
C:Genetics:
A:Gene: GnRH-I
C:Superfamily: gonadoliberin

Query Match 57.5%; Score 42; DB 2; Length 89;
Best Local Similarity 60.0%; Pred. No. 16; Mismatches 2; Indels 0; Gaps 0;
Matches 6; Conservative

Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGLRPG 33

RESULT 35
RHMSG
gonadoliberin precursor - mouse
N:Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing hormone releasing hormone (LHRH)
N:Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
C:Species: Mus musculus (house mouse)
C:Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C:Accession: A47578
R:Maason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Young III, W.S.; Phillips, H.S.; Nikolics, S.
Science 234, 1366-1371, 1986
A:Title: A deletion truncating the gonadotropin-releasing hormone gene is responsible for the absence of luteinizing hormone-releasing hormone (LHRH) in the mouse
A:Reference number: A47578; MUID:87069928; PMID:3024317
A:Accession: A47578
A:Molecule type: DNA
A:Residues: 1-90 <MAS>
A:Cross-references: EMBL:ML4872; NID:G193576; PIDN:AAA37717.1; PID:G387175
C:Genetics:
A:Insertions: 45/3; 77/3
C:Function:
A:Description: gonadoliberin stimulates pituitary secretion of lutropin and follitropin
A:Note: gonadoliberin-associated protein may have prolactin release inhibiting activity
C:Superfamily: gonadoliberin
C:Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F:1-23/Domain: signal sequence #status predicted <SIG>
F:22-31/Product: gonadoliberin #status predicted <GLB>
F:35-90/Product: gonadoliberin-associated protein #status predicted <GAP>
F:22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicted
F:31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly)

Query Match 57.5%; Score 42; DB 1; Length 90;
Best Local Similarity 60.0%; Pred. No. 16; Mismatches 2; Indels 0; Gaps 0;
Matches 6; Conservative

Qy 1 EHWSHGWYPG 10
Db 22 QHWSYGLRPG 31

RESULT 36
RHMSG
gonadoliberin precursor [validated] - human
N:Alternate names: gonadotropin releasing hormone (GnRH); luteinizing hormone releasing hormone (LHRH)
N:Contains: gonadoliberin-associated protein (GAP); progadoliberin
C:Species: Homo sapiens (man)
C:Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 08-Dec-2000
C:Accession: S05308; A26173; A93342; A90108; A01410; S45718
R:Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.

Nucleic Acids Res. 17, 6403-6404, 1989
A:Title: The complete nucleotide sequence of the human gonadotropin-releasing hormone gene
A:Reference number: S05308; MUID:8936682; PMID:2671939
A:Accession: S05308
A:Status: translation not shown
A:Molecule type: DNA
A:Residues: 1-92 <HAY>
A:Cross-references: EMBL:X15215; NID:g31955; PIDN:CAA33285.1; PID:g31956
R:Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A:Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gonadotropin-releasing hormone
A:Reference number: A94090; MUID:86094338; PMID:2867548
A:Accession: A26173
A:Molecule type: mRNA
A:Residues: 1-92 <ADE>
A:Cross-references: GB:M12578; NID:g183418; PIDN:AAA35916.1; PID:g386749
A:Experimental source: hypothalamus
R:Seeburg, P.H.; Adelman, J.P.
Nature 311, 666-668, 1984
A:Title: Characterization of cDNA for precursor of human luteinizing hormone releasing hormone
A:Reference number: A93342; MUID:85012739; PMID:6090951
A:Accession: A93342
A:Molecule type: mRNA
A:Residues: 1-15, 'S', 17-92 <SEE>
A:Cross-references: GB:X01059; NID:g34356; PIDN:CAA25526.1; PID:g34357
A:Experimental source: placenta
R:Tan, L.; Rousseau, P.
Biochem. Biophys. Res. Commun. 109, 1061-1071, 1982
A:Title: The chemical identity of the immunoreactive LHRH-like peptide biosynthesized in the rat hypothalamus
A:Reference number: A90108; MUID:83126573; PMID:6760865
A:Accession: A90108
A:Molecule type: protein
A:Residues: 24-33 <TAN>
A:Experimental source: placental trophoblasts
R:Leibovitz, D.; Koch, V.; Pitzer, F.; Fridkin, M.; Dantes, A.; Baumeister, W.; Amsterda
PEBS Lett. 346, 203-206, 1994
A:Title: Sequential degradation of the neuropeptide gonadotropin-releasing hormone by the
A:Reference number: S45718; MUID:94283597; PMID:8013634
A:Contents: annotation; degradation pathway of synthetic hormone
C:Genetics:
A:Gene: GDB:GNRH; LHRH; GRH
A:Cross-references: GDB:I33746; OMIM:227200; OMIM:152760
A:Map position: 8p21-9p11.2
A:Introns: 47/3; 79/3
C:Function:
A:Description: gonadolibirin stimulates pituitary secretion of lutropin and follitropin
A:Note: gonadolibirin-associated protein may have prolactin release inhibiting activity
C:Superfamily: gonadolibirin
C:Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F:1-23/Domain: signal sequence #status predicted <SIG>
F:24-92/Product: progonaolibirin #status predicted <PGN>
F:37-92/Product: gonadolibirin #status experimental <WAT>
F:24/Modified site: pyroglutamic acid (Gln) (in mature form) #status experimental
F:33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following Gly)

Query Match 57.5%; Score 42; DB 1; Length 92;
Best Local Similarity 60.0%; Pred. No. 16;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYFG 10
Db 24 QHWSYGLRPG 33

RESULT 37
RHRTG
gonadolibirin precursor - rat
N:Alternate names: gonadolibirin-associated protein (GAP); gonadotropin releasing hormone
N:Contains: gonadolibirin; prolactin release-inhibiting factor
C:Species: Rattus norvegicus (Norway rat)
C:Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 18-Jun-1999
C:Accession: A40147; E26173; A48410

R:Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P.
Mol. Endocrinol. 3, 1257-1262, 1989
A:Title: The rat gonadotropin-releasing hormone: SH locus: structure and hypothalamic ex
A:Reference number: A40147; MUID:89384661; PMID:2476669
A:Accession: A40147
A:Status: translation not shown
A:Molecule type: DNA
A:Residues: 1-92 <BON>
A:Cross-references: GB:M31670; NID:g204447; PIDN:AAA41264.1; PID:g204448
R:Adelman, J.P.; Vason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A:Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gonadotropin-releasing hormone
A:Reference number: A94090; MUID:86094338; PMID:2867548
A:Accession: B26173
A:Molecule type: mRNA
A:Residues: 1-92 <ADE>
A:Cross-references: GB:M12579; NID:g204445; PIDN:AAA41263.1; PID:g204446
R:Maier, C.C.; Marchetti, B.; LeBoeuf, R.D.; Blalock, J.E.
Cell. Mol. Neurobiol. 12, 447-454, 1992
A:Title: Thymocytes express a mRNA that is identical to hypothalamic luteinizing hormone
A:Reference number: A48410; MUID:93105480; PMID:1469115
A:Accession: A48410
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-92 <MAI>
A:Cross-references: GB:S50870; NID:g262059; PIDN:AB24572.1; PID:g262060
A:Experimental source: thymus
A:Note: sequence extracted from NCBI backbone (NCBIN:121082, NCBIP:121083)
C:Genetics:
A:Introns: 47/3; 79/3
C:Function:
A:Description: stimulates pituitary secretion of lutropin and follitropin
A:Note: gonadolibirin-associated protein may have prolactin release inhibiting activity
C:Superfamily: gonadolibirin
C:Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid; r
F:1-23/Domain: signal sequence #status predicted <SIG>
F:24-92/Product: progonaolibirin #status predicted <PGN>
F:24-33/Product: gonadolibirin #status predicted <GN>
F:37-92/Product: prolactin release-inhibiting factor #status predicted <PIP>
F:24/Modified site: pyroglutamic acid (Gln) (in mature form) #status predicted
F:33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following Gly)

Query Match 57.5%; Score 42; DB 1; Length 92;
Best Local Similarity 60.0%; Pred. No. 16;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYFG 10
Db 24 QHWSYGLRPG 33

RESULT 38
IS0739
gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
C:Species: Haplochromis burtoni
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C:Accession: IS0739
R:White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, R.D.
Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
A:Title: Three gonadotropin-releasing hormone genes in one organism suggest novel roles
A:Reference number: IS0739; MUID:95396797; PMID:7667296
A:Accession: IS0739
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-98 <WHI>
A:Cross-references: EMBL:U31865; NID:g905398; PIDN:AAC59691.1; PID:g905399
C:Superfamily: gonadolibirin

Query Match 57.5%; Score 42; DB 2; Length 98;
Best Local Similarity 60.0%; Pred. No. 17;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYFG 10
Db 24 QHWSYGLRPG 33

Db 23 QHWSYGLSPG 32

RESULT 39
I53276
Hypothetical anti-proliferative factor - rat (fragment)
C:Species: Rattus norvegicus (Norway rat)
C:Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 31-Dec-1996
C:Accession: I53276
R:Hamill, K.G.; Hall, S.H.
A:Title: Cloning of rat Sertoli cell follicle-stimulating hormone primary response comp
A:Reference number: I53276; MUID:94164020; PMID:8161377
A:Accession: I53276
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-157 <RES>
A:Cross-references: GB:L26268; NID:g432344; PID:g432345

Query Match 57.5%; Score 42; DB 2; Length 157;
Best Local Similarity 55.6%; Pred. No. 27; Mismatches 2; Indels 0; Gaps 0;
Matches 5; Conservative 2;

QY 1 EHWSHGWYP 9
||: ||: ||:
Db 36 EHYKHEWFP 44

RESULT 40
AC3314
Hypothetical membrane spanning protein BMEI0497 [imported] - Brucella melitensis (strain
C:Species: Brucella melitensis
C:Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 01-Feb-2002
A:Accession: AC3314
R:DelVecchio, V.G.; Kaparal, V.; Redkar, R.J.; Patra, G.; Majer, C.; Los, T.; Ivanova,
; Mazur, M.; Goitman, E.; Selkov, E.; Elzer, P.H.; Ragius, S.; O'Callaghan, D.; Letes
Proc. Natl. Acad. Sci. U.S.A. 99, 443-448, 2002
A:Title: The genome sequence of the facultative intracellular pathogen Brucella melitens
A:Reference number: AB3252; PMID:11756688
A:Accession: AC3314
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-167 <KUR>
A:Cross-references: GB:AE008917; PIDN:AAL51678.1; PID:g17982410; GSPDB:GN00190
A:Experimental source: strain 16M
C:Genetics:
A:Gene: BMEI0497
A:Map position: 1

Query Match 57.5%; Score 42; DB 2; Length 167;
Best Local Similarity 75.0%; Pred. No. 29; Mismatches 2; Indels 0; Gaps 0;
Matches 6; Conservative 0;

QY 1 EHWSHGWY 8
||: ||: ||:
Db 130 EPWSRGWY 137

RESULT 41
S19961
BTG1 protein - chicken
C:Species: Gallus gallus (chicken)
C:Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 21-Jul-2000
C:Accession: I50585; S19961
R:Rouault, J.P.; Samarut, C.; Duret, L.; Tessa, C.; Samarut, J.; Magaud, J.P.
Gene 129, 303-306, 1993
A:Title: Sequence analysis reveals that the BTG1 anti-proliferative gene is conserved th
A:Reference number: I48272; MUID:93314978; PMID:8325512
A:Accession: I50585
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-170 <ROU>
A:Cross-references: EMBL:X64146; NID:g62857; PIDN:CAA45507.1; PID:g62858

C:Genetics:
A:Gene: BTG1

Query Match 57.5%; Score 42; DB 2; Length 170;
Best Local Similarity 55.6%; Pred. No. 30; Mismatches 2; Indels 0; Gaps 0;
Matches 5; Conservative 2;

QY 1 EHWSHGWYP 9
||: ||: ||:
Db 50 EHYKHEWFP 58

RESULT 42
I48272
btg1 protein - mouse
C:Species: Mus musculus (house mouse)
C:Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 05-Nov-1999
C:Accession: I48272; S26626
R:Rouault, J.P.; Samarut, C.; Duret, L.; Tessa, C.; Samarut, J.; Magaud, J.P.
Gene 129, 303-306, 1993
A:Title: Sequence analysis reveals that the BTG1 anti-proliferative gene is conserved th
A:Reference number: I48272; MUID:93314978; PMID:8325512
A:Accession: I48272
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-171 <RES>
A:Cross-references: EMBL:Z16410; NID:g50187; PIDN:CAA78902.1; PID:g50188

Query Match 57.5%; Score 42; DB 2; Length 171;
Best Local Similarity 55.6%; Pred. No. 30; Mismatches 2; Indels 0; Gaps 0;
Matches 5; Conservative 2;

QY 1 EHWSHGWYP 9
||: ||: ||:
Db 50 EHYKHEWFP 58

RESULT 43
S20947
BTG1 protein - human
C:Species: Homo sapiens (man)
C:Date: 16-Sep-1992 #sequence_revision 16-Sep-1992 #text_change 21-Jul-2000
C:Accession: S20947; S19962
R:Rouault, J.P.; Rimokm, R.; Tessa, C.; Paranhos, G.; French, M.; Duret, L.; Garoccio, P
EMBO J. 11, 1663-1670, 1992
A:Title: BTG1, a member of a new family of antiproliferative genes.
A:Reference number: S20947; MUID:92224907; PMID:1373383
A:Accession: S20947
A:Molecule type: mRNA
A:Residues: 1-171 <ROU>
A:Cross-references: EMBL:X61123; NID:g29508; PIDN:CAA43435.1; PID:g29509
A:Note: the sequence from Fig. 2 is inconsistent with that from Fig. 1 B in having 167-A;
C:Genetics:
A:Gene: GDB:BTG1
A:Cross-references: GDB:137082; OMIM:109580
A:Map position: 12q22-12q22

Query Match 57.5%; Score 42; DB 2; Length 171;
Best Local Similarity 55.6%; Pred. No. 30; Mismatches 2; Indels 0; Gaps 0;
Matches 5; Conservative 2;

QY 1 EHWSHGWYP 9
||: ||: ||:
Db 50 EHYKHEWFP 58

RESULT 44
F90449
conserved hypothetical protein [imported] - Sulfolobus solfataricus
C:Species: Sulfolobus solfataricus
C:Date: 24-May-2001 #sequence_revision 24-May-2001 #text_change 15-Jun-2001
C:Accession: F90449
R:She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-v

Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, P. arribet, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J.
 A:Submitted to GenBank, April 2001
 A:Description: *Sulfolobus solfataricus* complete genome.
 A:Reference number: A99139
 A:Accession: F90449
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-397 <KUR>
 A:Cross-references: GB:AE006641; NID:gl13816071; PIDN:AAK42853.1; GSPDB:GN00155
 C:Genetics:
 C:Superfamily: hypothetical protein AF1590

Query Match 57.58; Score 42; DB 2; Length 397;
 Best Local Similarity 62.5%; Pred. No. 69;
 Matches 5; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 3 WSHGWYPG 10
 | | | | |
 Db 267 WGEAWYPG 274

RESULT 45
 GB4091
 hypothetical protein BH3535 [imported] - *Bacillus halodurans* (strain C-125)
 C:Species: *Bacillus halodurans*
 C:Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001
 C:Accession: GB4091
 R:Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fujii, F.; Hira
 Nucleic Acids Res. 28, 4317-4331, 2000
 A:Title: Complete genome sequence of the alkaliphilic bacterium *Bacillus halodurans* and
 A:Reference number: A83650; MUID:20512582; PMID:11058132
 A:Accession: GB4091
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-449 <STO>
 A:Cross-references: GB:AP001519; GB:BA000004; NID:gl0176109; PIDN:BAB07254.1; GSPDB:GN00
 A:Experimental source: strain C-125
 C:Genetics:
 A:Gene: BH3535

Query Match 56.8%; Score 41.5; DB 2; Length 449;
 Best Local Similarity 50.0%; Pred. No. 92;
 Matches 7; Conservative 0; Mismatches 2; Indels 5; Gaps 1;

QY 2 HWSH-----GWYPG 10
 | | | | |
 Db 290 HWRHEPLYGWKPG 303

RESULT 46
 AG2431
 hypothetical protein alr5007 [imported] - *Nostoc* sp. (strain PCC 7120)
 C:Species: *Nostoc* sp. PCC 7120
 A:Note: *Nostoc* sp. strain PCC 7120 is a synonym of *Anabaena* sp. strain PCC 7120
 C:Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002
 C:Accession: AG2431
 R:Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi
 Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S
 DNA Res. 8, 205-213, 2001
 A:Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium *Ana*
 A:Reference number: AB1807; MUID:21595285; PMID:11759840
 A:Accession: AG2431
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-450 <KUR>
 A:Cross-references: GB:BA000019; PIDN:BAB76706.1; PID:gl17134145; GSPDB:GN00179
 A:Experimental source: strain PCC 7120
 C:Genetics:
 A:Gene: alr5007
 C:Superfamily: *Nostoc* sp. cell death suppressor protein; Rieske [2Fe-2S] homology

Query Match 56.2%; Score 41; DB 2; Length 450;
 Best Local Similarity 62.5%; Pred. No. 1.1e+02;
 Matches 5; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWYP 9
 | | | | |
 Db 27 NWREHWYP 34

RESULT 47
 A97077
 hypothetical protein CAC1436 [imported] - *Clostridium acetobutylicum*
 C:Species: *Clostridium acetobutylicum*
 C:Date: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 14-Sep-2001
 C:Accession: A97077
 R:Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; Lee,
 J. Bacteriol. 183, 4823-4838, 2001
 A:Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium *Clo*
 A:Reference number: A96900; MUID:21359325; PMID:21359325
 A:Accession: A97077
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-2091 <KUR>
 A:Cross-references: GB:AE001437; PIDN:AAK79404.1; PID:gl5024378; GSPDB:GN00168
 A:Experimental source: *Clostridium acetobutylicum* ATCC824
 C:Genetics:
 A:Gene: CAC1436

Query Match 56.2%; Score 41; DB 2; Length 2091;
 Best Local Similarity 62.5%; Pred. No. 5e+02;
 Matches 5; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWYP 9
 | | | | |
 Db 822 NWHGWS 829

RESULT 48
 B70573
 hypothetical protein RV2627C - *Mycobacterium tuberculosis* (strain H37RV)
 C:Species: *Mycobacterium tuberculosis*
 C:Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 22-Oct-1999
 C:Accession: B70573
 R:Coile, S.T.; Broesch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S
 Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Holroyd, S.
 Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
 Nature 393, 537-544, 1998
 A:Authors: Sgares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.
 A:Title: Deciphering the biology of *Mycobacterium tuberculosis* from the complete genome
 A:Reference number: A70500; MUID:98295987; PMID:9634230
 A:Accession: B70573
 A:Status: preliminary; nucleic acid sequence not shown; translation not shown
 A:Molecule type: DNA
 A:Residues: 1-413 <COL>
 A:Cross-references: GB:Z95387; GB:AL123456; NID:g3261763; PIDN:CAB08637.1; PID:ei299818;
 A:Experimental source: strain H37RV
 C:Genetics:
 A:Gene: RV2627C

Query Match 55.5%; Score 40.5; DB 2; Length 413;
 Best Local Similarity 53.8%; Pred. No. 1.2e+02;
 Matches 7; Conservative 0; Mismatches 3; Indels 3; Gaps 1;

QY 1 BHWSHG---WYFG 10
 | | | | |
 Db 365 BHWGKPEIWWYPG 377

RESULT 49
 F69782
 hypothetical protein ydgD - *Bacillus subtilis*
 C:Species: *Bacillus subtilis*

C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 15-Oct-1999
 C;Accession: F69782
 R;Kunst, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Berter
 C.; Bron, S.; Brouillet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; Chd
 A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, E.
 Nature 390, 249-256, 1997
 A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galler
 iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F.
 Koester, P.; Koningsstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois,
 A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mausel
 Y.M.; Ogawa, K.; Ogiwara, A.; Oudeg, B.; Park, S.H.; Parro, V.; Pohl, T.M.; Portetelle
 Rieger, M.; Rivolta, C.; Rocha, E.; Roche, E.; Rose, M.; Sadaie, Y.; Sato, T.; Scanlon,
 A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Serot
 akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiyama,
 T.; Winters, P.; Wipat, A.; Yamamoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida, K
 A;Authors: Yoshikawa, H.F.; Zumstein, E.; Yoshikawa, H.; Danchin, A.
 A;Title: The complete genome sequence of the Gram-positive bacterium *Bacillus subtilis*.
 A;Reference number: A69580; MUID:98044033; PMID:9384377
 A;Accession: F69782
 A;Status: preliminary; nucleic acid sequence not shown; translation not shown
 A;Molecule type: DNA
 A;Residues: 1-114 <KUN>
 A;Cross-references: GB:Z99106; GB:Z99107; GB:AL009126; NID:92632866; PIDN:CAB12378.1; PI
 A;Experimental source: strain 168
 C;Genetics:
 A;Gene: ydgP

Query Match 54.8%; Score 40; DB 2; Length 114;
 Best Local Similarity 66.7%; Pred. No. 39;
 Matches 6; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSHGWYP 9
 |||||
 Db 30 EHWRYQYP 38

RESULT 50
 F81807
 Ribonuclease H (EC 3.1.26.4) I NMA1817 [imported] - *Neisseria meningitidis* (strain Z2491
 C;Species: *Neisseria meningitidis*
 C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 02-Feb-2001
 C;Accession: F81807
 R;Parkhill, J.; Achtman, M.; James, K.D.; Bentley, S.D.; Churcher, C.; Klee, S.R.; Morel
 ; Holroyd, S.; Jagels, K.; Leather, S.; Moule, S.; Mungall, K.; Quail, M.A.; Rajandream,
 Nature 404, 502-506, 2000
 A;Title: Complete DNA sequence of a serogroup A strain of *Neisseria meningitidis* Z2491.
 A;Reference number: A81775; MUID:20222556; PMID:10761919
 A;Accession: F81807
 A;Status: preliminary
 A;Molecule type: DNA
 A;Residues: 1-145 <PAR>
 A;Cross-references: GB:AL162757; GB:AL157959; NID:97380371; PIDN:CAB85042.1; PID:9738045
 A;Experimental source: serogroup A, strain Z2491
 C;Genetics:
 A;Gene: rnhA; NMA1817
 C;Superfamily: ribonuclease H
 C;Keywords: hydrolase

Query Match 54.8%; Score 40; DB 2; Length 145;
 Best Local Similarity 71.4%; Pred. No. 49;
 Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGW 7
 |||||
 Db 79 ENWIGHW 85

Search completed: March 2, 2004, 19:28:24
 Job time : 29.5 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:16:38 ; Search time 10 Seconds

(without alignments)

52.070 Million cell updates/sec

Title: US-09-857-115-6

Perfect score: 73

Sequence: 1 EHWSHGWYFG 10

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 500 summaries

Database : SwissProt_42:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	70	95.9	10	GON2_CHICK	P37043 gallus gall
2	70	95.9	80	GON2_ORYLA	Q9dgc9 o prognado
3	70	95.9	85	GON2_DICLA	Q91a08 dicentrarch
4	70	95.9	85	GON2_HAPBU	P37044 h prognado
5	70	95.9	85	GON2_MORSA	O73811 morone saxa
6	70	95.9	85	GON2_SPAAU	P51925 sparus aura
7	70	95.9	86	GON2_CARAU	P51924 carassius a
8	70	95.9	86	GON2_CARAU	O42471 carassius a
9	70	95.9	86	GON2_CLAGA	P43306 clarias gar
10	70	95.9	86	GON2_ONCMY	O42241 oncorhynch
11	70	95.9	86	GON2_RUTRU	Q91330 rutilus rut
12	70	95.9	93	GON2_RANCA	Q9dgc9 rana catesb
13	70	95.9	110	GON2_SUNMU	O97686 suncus muri
14	70	95.9	114	GON2_TURGB	Q95336 tupia glis
15	70	95.9	120	GON2_HUMAN	O43555 homo sapien
16	62	84.9	10	GONL_SQUAC	P27429 squallus aca
17	56	76.7	10	GON3_ONCKE	P20367 oncorhynch
18	56	76.7	18	GON3_ONCMY	P55246 oncorhynch
19	56	76.7	74	GON3_ONCTS	Q92097 oncorhynch
20	56	76.7	82	GON3_ONCWA	P30973 oncorhynch
21	56	76.7	82	GON3_SALSA	P35629 salmo galar
22	56	76.7	82	GON3_SALTR	P45653 salmo trutt
23	56	76.7	89	GON3_PORNO	P51922 porichthys
24	56	76.7	90	GON3_DICLA	Q91a09 dicentrarch
25	56	76.7	90	GON3_HAPBU	P45652 haplochromi
26	56	76.7	90	GON3_ORYLA	Q91a08 o prognado
27	56	76.7	90	GON3_PAGMA	P51921 pagrus majo
28	56	76.7	90	GON3_SPAAU	P51923 sparus aura
29	56	76.7	94	GON3_CARAU	P51917 carassius a
30	56	76.7	94	GON3_RUTRU	Q92106 rutilus rut
31	54	74.0	10	GON3_PETMA	P30948 petromyzon
32	48	65.8	10	GON1_CLUPA	P81749 clupea pall
33	48	65.8	80	GON1_CLAGA	P33439 clarias gar

34	46	63.0	90	GON8_RANDY	Q91a02 rana dybows
35	45	61.6	441	DNE2_ADEG1	Q64759 avian adeno
36	43	58.9	10	GON1_ALLMI	P37041 alligator m
37	43	58.9	92	GON1_CHICK	P37042 gallus gall
38	42	57.5	61	GON1_SHEEP	Q28588 ovis aries
39	42	57.5	63	GON1_SHEAU	Q09163 mesocricetu
40	42	57.5	67	GON1_MACMU	P55247 macaca mula
41	42	57.5	89	GON1_XENLA	P45856 xenopus lae
42	42	57.5	90	GON1_MOUSE	P13562 mus musculu
43	42	57.5	90	GON1_RANCA	Q90y63 rana catesb
44	42	57.5	91	GON1_PIG	P49921 sus scrofa
45	42	57.5	92	GON1_HUMAN	P01148 homo sapien
46	42	57.5	92	GON1_RAT	P07490 rattus norv
47	42	57.5	92	GON1_TURGB	Q95335 tupia glis
48	42	57.5	94	GON1_HAPBU	P51918 haplochromi
49	42	57.5	95	GON1_MORSA	O73812 morone saxa
50	42	57.5	95	GON1_PAGMA	P70074 pagrus majo
51	42	57.5	95	GON1_SPAAU	P51919 sparus aura
52	42	57.5	99	GON1_DICLA	Q91a10 dicentrarch
53	42	57.5	158	BTG2_HUMAN	P78543 homo sapien
54	42	57.5	170	BTG1_CHICK	P34743 gallus gall
55	42	57.5	171	BTG1_BOVIN	P53348 bos taurus
56	42	57.5	171	BTG1_HUMAN	P31607 homo sapien
57	42	57.5	171	BTG1_RAT	Q63073 rattus norv
58	40	54.8	114	YDGD_BACSU	P96702 bacillus su
59	40	54.8	145	RNH_NEIMA	Q91td9 neisseria m
60	40	54.8	145	RNH_NEIMB	Q91ves neisseria m
61	40	54.8	567	PHNL_DESVM	P21852 desulfovibr
62	40	54.8	752	CO2_HUMAN	P06881 homo sapien
63	40	54.8	752	CO2_PANTR	Q88q74 pan troglod
64	40	54.8	760	CO2_MOUSE	P21180 mus musculu
65	39	53.4	75	VFIL_BP186	P15236 bacterioph
66	39	53.4	91	GON1_ORYLA	Q9dgc8 o prognado
67	39	53.4	158	BTG2_MOUSE	Q04211 mus musculu
68	39	53.4	158	BTG2_RAT	P27049 rattus norv
69	39	53.4	251	VIF_FIVT2	P31823 feline immu
70	39	53.4	303	HEM6_WIGBR	Q8dlx2 wigleswort
71	39	53.4	406	ACYL_PIG	P37111 sus scrofa
72	38.5	52.7	463	SIL9_HUMAN	Q9y236 homo sapien
73	38.5	52.7	551	AMVB_THETU	P19584 thermoanaer
74	38.5	52.7	690	FXL5_MOUSE	Q8c2e5 mus musculu
75	38.5	52.7	691	FXL5_HUMAN	Q9ukal homo sapien
76	38	52.1	93	ACYF_MICTU	P56543 mycobacteri
77	38	52.1	112	VFX_SIVSP	P19508 simian immu
78	38	52.1	393	YBZJ_CABEL	P91119 caenorhabdi
79	38	52.1	571	YRIQ_CABEL	P90794 caenorhabdi
80	38	52.1	637	TRGS_ECOLI	Q00184 escherichia
81	38	52.1	834	YM22_YEAST	Q00184 saccharomyc
82	38	52.1	1277	PDSS_YEAST	Q04364 saccharomyc
83	37.5	51.4	201	ADEN_ADEE2	O40588 equine aden
84	37.5	51.4	675	CPAA_BACTU	O87908 bacillus th
85	37	50.7	76	BB11_SCHCO	P78742 schizophyll
86	37	50.7	338	HEMZ_PSEPK	Q88pv4 pseudomonas
87	37	50.7	345	AMIE_RHOER	Q01360 rhodococcus
88	37	50.7	346	AMIE_BRAJA	Q89v82 bradyrhizob
89	37	50.7	346	AMIE_PSEAE	P11436 pseudomonas
90	37	50.7	346	FMRL_GORGO	P79176 gorilla gor
91	37	50.7	346	FMRL_MACMU	P79189 macaca mula
92	37	50.7	346	FMRL_PANTR	P79241 pan troglod
93	37	50.7	346	FMRL_PONPY	P79235 pongo pygma
94	37	50.7	346	FMRL_BACSP	Q91543 bacillus sp
95	37	50.7	348	AMIE_BACST	Q9rg17 bacillus st
96	37	50.7	380	FMRL_HUMAN	P21462 homo sapien
97	37	50.7	382	FMRL_RABIT	Q05394 corytolagus
98	37	50.7	382	FMRL_MOUSE	P33766 mus musculu
99	37	50.7	384	Y9E8_PSEAE	P33642 pseudomonas
100	37	50.7	384	IMDI_YEAST	P39567 saccharomyc
101	37	50.7	403	PAX6_COTJA	P47238 coturnix co
102	37	50.7	416	PAX6_HUMAN	P26367 homo sapien
103	37	50.7	422	PAX6_MOUSE	P32117 mus musculu
104	37	50.7	422	PAX6_XENLA	P55864 xenopus lae
105	37	50.7	437	PAX6_BRARE	P26630 brachydanio
106	37	50.7	437	PAX6_ORYLA	O73917 oryzias lat

107 37 50.7 453 1 YAW6 SCHPO
 108 37 50.7 471 1 GATA_YEAST
 109 37 50.7 682 1 VG50_BPM15
 110 37 50.7 759 1 ARY1_CALVI
 111 37 50.7 759 1 ARY1_CALVI
 112 37 50.7 760 1 SM4A_MOUSE
 113 37 50.7 835 1 OBP_VZVD
 114 37 50.7 857 1 PAX6_DROME
 115 37 50.7 998 1 RPO_BV
 116 37 50.7 998 1 RPO_BOOLV
 117 37 50.7 998 1 RPO_FHV
 118 37 50.7 2366 1 TOXB_CLODI
 119 36.5 50.0 284 1 TMT_HUMAN
 120 36.5 50.0 353 1 RHL_HYLP1
 121 36.5 50.0 4568 1 DYHE_CHLRE
 122 36 49.3 137 1 C560_MARPO
 123 36 49.3 169 1 LSPA_PSEAE
 124 36 49.3 173 1 LSPA_PSESM
 125 36 49.3 193 1 SODF_COXBU
 126 36 49.3 214 1 HAM1_BRUME
 127 36 49.3 220 1 HAM1_RHIME
 128 36 49.3 220 1 HAM1_RHITO
 129 36 49.3 235 1 CAH1_RABIT
 130 36 49.3 237 1 NRL_HUMAN
 131 36 49.3 277 1 SUR4_CABEL
 132 36 49.3 315 1 RSEB_HABIN
 133 36 49.3 349 1 WN7A_MOUSE
 134 36 49.3 352 1 RESC_BACSU
 135 36 49.3 353 1 GLNA_LUPLU
 136 36 49.3 353 1 KERA_CHICK
 137 36 49.3 353 1 KERA_COTJA
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 139 36 49.3 378 1 B3G4_HUMAN
 140 36 49.3 381 1 B3P4_NOCLA
 141 36 49.3 387 1 SOX1_HUMAN
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 145 36 49.3 429 1 AMV6_HORVU
 146 36 49.3 433 1 LGMN_HUMAN
 147 36 49.3 435 1 LGMN_MOUSE
 148 36 49.3 435 1 LGMN_RAT
 149 36 49.3 513 1 PFCK_SHEON
 150 36 49.3 724 1 YM76_YEAST
 151 36 49.3 769 1 YCYL_CABEL
 152 36 49.3 789 1 PHK1_RHIME
 153 36 49.3 829 1 PQOF_PSEFL
 154 36 49.3 919 1 NOS3_RAT
 155 36 49.3 988 1 SY1_SINY3
 156 36 49.3 1201 1 NOS3_MOUSE
 157 36 49.3 1202 1 NOS3_HUMAN
 158 36 49.3 1204 1 NOS3_BOVIN
 159 36 49.3 1204 1 NOS3_PIG
 160 36 49.3 1581 1 VGLP_BEV
 161 36 49.3 1785 1 BIG2_HUMAN
 162 36 49.3 1849 1 BIG1_BOVIN
 163 36 49.3 1849 1 BIG1_HUMAN
 164 35.5 48.6 98 1 YAAK_ECOLI
 165 35.5 48.6 209 1 ADEN_ADE03
 166 35.5 48.6 391 1 MSE5_HUMAN
 167 35.5 48.6 827 1 MAK1_MOUSE
 168 35 47.9 90 1 YU02_ECOLI
 169 35 47.9 92 1 GON1_CAVPO
 170 35 47.9 107 1 PPDC_ECOLI
 171 35 47.9 155 1 RL13_AERPE
 172 35 47.9 199 1 YTHX_ECOLI
 173 35 47.9 218 1 SODM_SCHPO
 174 35 47.9 224 1 BIOD_XANAC
 175 35 47.9 247 1 R33_TREPA
 176 35 47.9 320 1 CEL1_AGABI
 177 35 47.9 339 1 AUMH_HUMAN
 178 35 47.9 351 1 SGF3_BOMMO
 179 35 47.9 353 1 ABA2_MOUSE

180 35 47.9 377 1 CAH1_CHLRE
 181 35 47.9 397 1 ASSY_PYRAE
 182 35 47.9 426 1 CGED_BACSU
 183 35 47.9 471 1 VVHA_VIRVU
 184 35 47.9 484 1 CATA_CANTR
 185 35 47.9 524 1 Y395_MYCEE
 186 35 47.9 550 1 PHNL_DESGI
 187 35 47.9 551 1 FZD2_HENLA
 188 35 47.9 565 1 FZD2_HUMAN
 189 35 47.9 570 1 FZD2_MOUSE
 190 35 47.9 570 1 FZD2_RAT
 191 35 47.9 589 1 PKM1_MYCTU
 192 35 47.9 597 1 CHIX_STROI
 193 35 47.9 650 1 SVC2_HUMAN
 194 35 47.9 859 1 ENV_EIAY1
 195 35 47.9 859 1 ENV_EIAY2
 196 35 47.9 859 1 ENV_EIAY3
 197 35 47.9 859 1 ENV_EIAYC
 198 35 47.9 859 1 ENV_EIAYV
 199 35 47.9 859 1 ENV_EIAYW
 200 35 47.9 859 1 ENV_EIAYV
 201 35 47.9 860 1 ENV_EIAYV
 202 35 47.9 877 1 YBGG_ECOLI
 203 35 47.9 1312 1 STRH_STRPN
 204 34.5 47.3 535 1 AMVB_HORVU
 205 34.5 47.3 987 1 YD94_METUA
 206 34 46.6 76 1 Y752_METUA
 207 34 46.6 125 1 ALR_HUMAN
 208 34 46.6 125 1 ALR_MOUSE
 209 34 46.6 125 1 ALR_RAT
 210 34 46.6 153 1 RNH_RHIME
 211 34 46.6 156 1 RNH_ZYMMO
 212 34 46.6 158 1 RNH_SHEON
 213 34 46.6 163 1 RNH3_YEAST
 214 34 46.6 177 1 RNH3_RHITO
 215 34 46.6 185 1 LPRB_MYCTU
 216 34 46.6 188 1 LPRB_MYCTU
 217 34 46.6 207 1 Y552_HAEIN
 218 34 46.6 220 1 PTP1_NPVOE
 219 34 46.6 226 1 PHH1_HUMAN
 220 34 46.6 226 1 PHH1_ECOLI
 221 34 46.6 230 1 YH86_MYCTU
 222 34 46.6 234 1 GLPF_STRPN
 223 34 46.6 234 1 GLPF_THENA
 224 34 46.6 236 1 CEMA_MESVI
 225 34 46.6 238 1 YJHA_ECOLI
 226 34 46.6 249 1 GPPI_YEAST
 227 34 46.6 260 1 OXIR_MOUSE
 228 34 46.6 264 1 GLPF_STRPN
 229 34 46.6 268 1 DAPB_BRUME
 230 34 46.6 268 1 DAPB_BRUSU
 231 34 46.6 271 1 DAPB_BRAJA
 232 34 46.6 287 1 TRUB_SYNEL
 233 34 46.6 298 1 COX1_PARDE
 234 34 46.6 298 1 RT03_ACACA
 235 34 46.6 301 1 AKEL_MOUSE
 236 34 46.6 305 1 RIR2_HSVSA
 237 34 46.6 315 1 ALD2_MOUSE
 238 34 46.6 315 1 ALDR_BOVIN
 239 34 46.6 315 1 ALDR_HUMAN
 240 34 46.6 315 1 ALDR_MOUSE
 241 34 46.6 315 1 ALDR_PIG
 242 34 46.6 315 1 ALDR_RAT
 243 34 46.6 342 1 S14A_CHICK
 244 34 46.6 356 1 METX_CHLRE
 245 34 46.6 377 1 AMPC_ECOLI
 246 34 46.6 407 1 IASP_HUMAN
 247 34 46.6 436 1 DSV4_DESVH
 248 34 46.6 436 1 ACOD_OENHO
 249 34 46.6 449 1 MB21_ARATH
 250 34 46.6 482 1 CATA_PAEEL
 251 34 46.6 497 1 CAT2_CAEEL
 252 34 46.6 502 1 CATA_TOXGO

P20507 chlamydomon
 Q8zu97 pyrobaculum
 P42092 bacillus su
 P19247 vibrio vuln
 P07820 candida tro
 P47635 mycoplasma
 P12944 desulfovibr
 Q9puu6 xenopus lae
 Q14332 homo sapien
 Q9tip6 mus musculu
 Q08464 rattus norv
 Q10697 mycobacteri
 Q05638 streptomyce
 Q09u33 homo sapien
 P22427 equine infe
 P22428 equine infe
 P22429 equine infe
 P11306 equine infe
 P12541 equine infe
 P16082 equine infe
 P06751 equine infe
 P22430 equine infe
 P54746 escherichia
 P49610 streptococc
 P16098 hordeum vul
 Q58789 methanococc
 Q58162 methanococc
 P55789 homo sapien
 P56213 mus musculu
 Q63042 rattus norv
 Q92r90 rhizobium m
 Q69014 zymomonas m
 Q8ee30 shewanella
 Q12487 saccharomyc
 Q985w1 rhizobium l
 Q11045 mycobacteri
 Q9cc87 mycobacteri
 P39372 escherichia
 P41277 saccharomyc
 P58307 mus musculu
 P19255 streptomyce
 Q8ydd8 brucella me
 Q8fv07 brucella su
 Q89wk2 bradyrhizob
 Q8cwm3 synechococc
 P08301 paracoccu
 P46754 acanthamoeb
 Q9act1 mus musculu
 Q01038 herpesvirus
 P45377 mus musculu
 P16116 bos taurus
 P15121 homo sapien
 P45376 mus musculu
 P80276 sus scrofa
 P07943 rattus norv
 Q11200 g cmp-n-ace
 Q8kes7 chlorobium
 P00811 escherichia
 Q8wuf5 homo sapien
 P45574 desulfovibr
 Q9mtl3 oenothera h
 Q80998 arabidopsis
 Q52762 pseudomonas
 P62732 caenorhabdi
 Q9xzd5 toxoplasma

253	34	46.6	506	1	CATA_BOVIN	P00432	bos taurus	326	33	45.2	379	1	CYRG_BOVIN	Q95118	bos taurus
254	34	46.6	524	1	BUTY_MOUSE	Q62556	mus musculus	327	33	45.2	384	1	CRT3_HUMAN	Q96112	homo sapien
255	34	46.6	524	1	CATI_CABEL	Q27487	caenorhabdi	328	33	45.2	390	1	ASSY_SULTO	Q87070	sulfolobus
256	34	46.6	543	1	DCUS_ECOL6	P59340	escherichia	329	33	45.2	395	1	IN84_CABEL	Q03613	caenorhabdi
257	34	46.6	543	1	DCUS_ECOL1	P39272	escherichia	330	33	45.2	406	1	ASSY_SULSO	Q90313	sulfolobus
258	34	46.6	543	1	DCUS_SHIFL	P59341	shigella fl	331	33	45.2	408	1	GPT_CRIGO	P23338	cricketulus
259	34	46.6	544	1	MLH1_HORVU	Q49873	hordeum vul	332	33	45.2	408	1	GPT_CRIGO	P23338	cricketulus
260	34	46.6	571	1	ILVD_STRMU	Q8477	strepococc	333	33	45.2	408	1	GPT_HUMAN	Q94355	homo sapien
261	34	46.6	660	1	XJ42_CHRVO	Q7509	chromobacte	334	33	45.2	410	1	GPT_MOUSE	P50284	mus musculus
262	34	46.6	687	1	INA_BACTL	P23382	bacillus th	335	33	45.2	415	1	TNR3_MOUSE	P50284	mus musculus
263	34	46.6	722	1	AD21_HUMAN	Q90438	homo sapien	336	33	45.2	417	1	DSRA_ARCFU	Q59109	archaeoglob
264	34	46.6	761	1	AD24_MOUSE	Q91160	mus musculus	337	33	45.2	421	1	CCG8_RAT	Q84355	rattus norv
265	34	46.6	794	1	Y966_CORGL	P35867	corynebacte	338	33	45.2	423	1	CCG8_MOUSE	Q84355	mus musculus
266	34	46.6	864	1	AGLU_MUCJA	Q92442	mucor javan	339	33	45.2	425	1	CCG8_HUMAN	Q84355	mus musculus
267	34	46.6	937	1	KDGM_CABEL	Q10024	caenorhabdi	340	33	45.2	425	1	IUCD_ECOL1	P11295	escherichia
268	34	46.6	3110	1	KD_RAT	P51111	rattus norv	341	33	45.2	428	1	GLN2_ORYSA	P14655	oryza sativ
269	34	46.6	3119	1	HD_MOUSE	P42859	mus musculus	342	33	45.2	428	1	GLNC_BRANA	Q42624	brassica na
270	34	46.6	3144	1	HD_HUMAN	P42858	homo sapien	343	33	45.2	429	1	GLNC_BRANA	Q42624	brassica na
271	34	46.6	3770	1	ACVS_EMENT	P27742	emeritella	344	33	45.2	429	1	QCRA_MYCTU	P15102	phaseolus v
272	34	46.6	4486	1	DYH9_HUMAN	Q91070	homo sapien	345	33	45.2	430	1	MENF_HABIN	Q44613	haemophilus
273	33.5	45.9	196	1	ADEN_ADEBA	Q71070	bovine aden	346	33	45.2	432	1	GLN2_DAUCA	Q22506	daucus caro
274	33.5	45.9	232	1	ICMT_RAT	Q94355	protein-e	347	33	45.2	432	1	YK27_CABEL	O16686	caenorhabdi
275	33.5	45.9	283	1	ICMT_MOUSE	Q94355	mus musculus	348	33	45.2	434	1	GLN2_HORVU	P13564	hordeum vul
276	33.5	45.9	383	1	SAVI_HUMAN	Q94355	homo sapien	349	33	45.2	440	1	LCAT_HUMAN	P04180	homo sapien
277	33.5	45.9	386	1	SAVI_MOUSE	Q94355	mus musculus	350	33	45.2	440	1	LCAT_PAPAN	Q08758	papio anubi
278	33.5	45.9	409	1	YUN4_YEAST	P47013	saccharomyc	351	33	45.2	440	1	LCAT_RABIT	P53761	oryctolagus
279	33.5	45.9	734	1	PSAB_PSIU	P58765	pillotum nu	352	33	45.2	455	1	EPIC_STAEP	P30196	staphylococ
280	33.5	45.9	761	1	YAB8_AQUAE	Q67178	aquifex aeo	353	33	45.2	455	1	CBIA_SALTY	P29946	salmonella
281	33	45.2	10	1	GONI_CHEPR	P80677	chelyosoma	354	33	45.2	467	1	TM11_MOUSE	Q99022	mus musculus
282	33	45.2	10	1	GONI_PETMA	P80677	chelyosoma	355	33	45.2	468	1	TM11_MOUSE	Q99022	mus musculus
283	33	45.2	15	1	GLN2_FINPS	P81107	pinus pinas	356	33	45.2	477	1	NIFE_RHOCA	P19055	rhodobacter
284	33	45.2	82	1	YF76_ARCFU	Q28696	archaeoglob	357	33	45.2	510	1	VLI1_HPV27	P25486	human papil
285	33	45.2	112	1	VPX_SIVM1	P05917	simian immu	358	33	45.2	512	1	THRC_ASHGO	P22182	human papil
286	33	45.2	186	1	RB93_HUMAN	Q75884	homo sapien	359	33	45.2	519	1	CH81_MAIZE	Q00063	ashbya goss
287	33	45.2	186	1	RB93_MOUSE	O88851	mus musculus	360	33	45.2	519	1	THRC_ASHGO	P30196	staphylococ
288	33	45.2	186	1	RB93_RAT	O88350	rattus norv	361	33	45.2	519	1	THRC_ASHGO	P30196	staphylococ
289	33	45.2	186	1	YGR8_YEAST	P53330	saccharomyc	362	33	45.2	572	1	OPGD_ECOL1	Q96760	mus musculus
290	33	45.2	187	1	LPFJ_MYCTU	Q10688	mycobacteri	363	33	45.2	574	1	PZD7_HUMAN	O60760	mus musculus
291	33	45.2	188	1	LCAT_PIG	P30930	sus scrofa	364	33	45.2	577	1	PYR2_TREPA	O92417	pseudomonas
292	33	45.2	191	1	RNMC_MONCH	P23540	momordica c	365	33	45.2	586	1	VGLN_BBFV	O92417	pseudomonas
293	33	45.2	202	1	LIF_BOVIN	Q27956	bos taurus	366	33	45.2	594	1	GRBA_HUMAN	O92417	pseudomonas
294	33	45.2	202	1	LIF_MOUSE	P15018	homo sapien	367	33	45.2	594	1	VLI1_HPV27	O92417	pseudomonas
295	33	45.2	202	1	LIF_MOUSE	Q62728	mustela vis	368	33	45.2	621	1	EXAA_PSEAE	O92417	pseudomonas
296	33	45.2	202	1	LIF_MOUSE	P17777	rattus norv	369	33	45.2	623	1	EXAA_PSEAE	O92417	pseudomonas
297	33	45.2	203	1	LIF_MOUSE	P09056	mus musculus	370	33	45.2	623	1	EXAA_PSEAE	O92417	pseudomonas
298	33	45.2	222	1	AMTB_SECC	P30271	secale cere	371	33	45.2	656	1	TOP3_YEAST	P10387	triticum ae
299	33	45.2	227	1	DEF1_GLOVI	Q74737	gloeobacter	372	33	45.2	660	1	GLT3_WHEAT	P10387	triticum ae
300	33	45.2	238	1	RNC_RHIME	Q92417	rhizobium m	373	33	45.2	661	1	F13B_HUMAN	O92417	pseudomonas
301	33	45.2	247	1	RH1R_RHILV	Q03316	rhizobium l	374	33	45.2	668	1	F13B_HUMAN	O92417	pseudomonas
302	33	45.2	250	1	RK13_SPIOL	P12629	spinacia ol	375	33	45.2	671	1	ENV_FENV1	P23903	bacillus ci
303	33	45.2	256	1	Y929_TREPA	O83899	treponema p	376	33	45.2	682	1	E13B_BACCI	P23903	bacillus ci
304	33	45.2	278	1	YDUI_ECOL1	P77704	escherichia	377	33	45.2	700	1	PHAN_BURPS	O92417	pseudomonas
305	33	45.2	293	1	LCAT_TATKG	Q35840	tatera kemp	378	33	45.2	705	1	GUNE_DICDI	P08488	triticum ae
306	33	45.2	299	1	LCAT_MICMN	O35724	micromys mi	379	33	45.2	742	1	PPK_MYCTU	P05160	mus musculus
307	33	45.2	303	1	CHIB_POPTR	P29031	populus tri	380	33	45.2	749	1	CATA_LEGPN	Q07968	mus musculus
308	33	45.2	330	1	XLYF_ECOL1	P37387	escherichia	381	33	45.2	787	1	XPXA_LACPE	P31791	feline endo
309	33	45.2	337	1	G3P_ZYMO	P09316	zymomonas m	382	33	45.2	788	1	PHK_LACPL	P23903	bacillus ci
310	33	45.2	345	1	OGCF_MOUSE	Q08760	mus musculus	383	33	45.2	822	1	PHK_LACPL	O92417	pseudomonas
311	33	45.2	348	1	FML1_GORGO	P79177	gorilla gor	384	33	45.2	843	1	CYAA_HABIN	O92417	pseudomonas
312	33	45.2	348	1	FML1_MACMU	P79190	macaca mula	385	33	45.2	856	1	CYAA_HABIN	P40134	haemophilus
313	33	45.2	348	1	FML1_PANTR	P79242	pan troglod	386	33	45.2	867	1	RRPO_BYDVI	P15920	mus musculus
314	33	45.2	348	1	FML1_PONPY	P79236	pongo pygma	387	33	45.2	867	1	RRPO_BYDVI	P29044	barley yell
315	33	45.2	351	1	FML1_HUMAN	P25090	homo sapien	388	33	45.2	867	1	RRPO_BYDVI	P09505	barley yell
316	33	45.2	351	1	FML1_MOUSE	O88790	mus musculus	389	33	45.2	1039	1	GUNE_CALSA	P29045	barley yell
317	33	45.2	351	1	GLN1_ARATH	Q91718	arabidopsis	390	33	45.2	1041	1	SVI_MYCTU	P10474	c endogluca
318	33	45.2	355	1	GLN1_PEA	P08282	pisum sativ	391	33	45.2	1082	1	KGRI_YEAST	Q10765	mycobacteri
319	33	45.2	356	1	GLN2_PHAVU	P04771	phaseolus v	392	33	45.2	1154	1	KDGM_MESAU	P19263	saccharomyc
320	33	45.2	357	1	GLN3_PEA	P07694	pisum sativ	393	33	45.2	1293	1	SNGP_RAT	O64398	mesocricetu
321	33	45.2	357	1	GLN4_PEA	P07694	pisum sativ	394	33	45.2	1309	1	RAD9_YEAST	Q94355	rattus norv
322	33	45.2	364	1	ARGC_BIFLO	P59305	bifidobacte	395	33	45.2	1328	1	SNGP_HUMAN	P14737	saccharomyc
323	33	45.2	371	1	NUIM_NEUCR	P08774	neurospora	396	33	45.2	1387	1	PUR4_ARATH	Q96070	homo sapien
324	33	45.2	377	1	HDA8_HUMAN	Q9541	homo sapien	397	33	45.2	1423	1	FRUA_STRMU	Q9843	arabidopsis
325	33	45.2	377	1	HDA8_MOUSE	Q84337	mus musculus	398	33	45.2	1433	1	Y310_HUMAN	Q03174	strepococc

399	MDR_LEITA	1	1548	45.2	33	45.2	33	43.8	371	1	MNCP_OXYFA	P15798 oxytricha f
400	PAPA_HUMAN	1	1627	45.2	33	45.2	33	43.8	371	1	MNCP_OXYTR	Q27151 oxytricha t
401	ITN2_MOUSE	1	1658	45.2	33	45.2	33	43.8	378	1	HMAN_DROME	P02833 drosophila
402	ITN2_MOUSE	1	1696	45.2	33	45.2	33	43.8	381	1	AMPC_CITFR	P05193 citrobacter
403	GBF1_CRIGR	1	1856	45.2	33	45.2	33	43.8	381	1	AMPC_ENTCL	P05364 enterobacte
404	GBF1_HUMAN	1	1859	45.2	33	45.2	33	43.8	393	1	OM45_YEAST	P16547 saccharomyc
405	POLG_JARV1	1	3432	45.2	33	45.2	33	43.8	393	1	YEC2_CABEL	O45686 caenorhabdi
406	POLG_JARV5	1	3432	45.2	33	45.2	33	43.8	394	1	HMAN_DROSU	Q24645 drosophila
407	POLG_JARVJ	1	3432	45.2	33	45.2	33	43.8	401	1	PA99_PSEAE	Q9nu96 pseudomonas
408	PKHG_HUMAN	1	4074	45.2	33	45.2	33	43.8	410	1	APGM_DEIRA	Q9rs40 deinococcus
409	ADEN_ADEM1	1	204	44.5	32.5	44.5	32	43.8	415	1	RF11_METAC	Q8tmu4 methanosarc
410	ISTB_BURCE	1	229	44.5	32.5	44.5	32	43.8	415	1	RF11_METAC	Q8px75 methanosarc
411	TP270_ASPB7	1	240	44.5	32.5	44.5	32	43.8	417	1	POIA_ECOLI	Q8qcu7 escherichia
412	V756_AGRIS	1	270	44.5	32.5	44.5	32	43.8	428	1	GLN2_MEDSA	Q8xq94 medicago sa
413	SK19_BRARE	1	319	44.5	32.5	44.5	32	43.8	429	1	PURK_MYCTU	P96881 mycobacteri
414	GLN2_MAIZE	1	368	44.5	32.5	44.5	32	43.8	430	1	GLN2_PEA	P98281 pneum sativ
415	LASA_PSEAE	1	418	44.5	32.5	44.5	32	43.8	437	1	GLA2_RHILIO	Q9sa81 rhizobium l
416	ASM2_CABEL	1	618	44.5	32.5	44.5	32	43.8	439	1	PURK_MYCTU	P46701 mycobacteri
417	NDVB_RHIME	1	2832	44.5	32.5	44.5	32	43.8	447	1	Y341_CHLMU	Q9pkx0 chlamydia m
418	ENV_SMSAV	1	77	43.8	32	43.8	32	43.8	448	1	FADL_ECOLI6	Q8cvu7 escherichia
419	YK45_PSEAE	1	86	43.8	32	43.8	32	43.8	450	1	CRED_ECOLI	P08369 escherichia
420	CYT_BITAR	1	111	43.8	32	43.8	32	43.8	451	1	Y069_CHLTR	O84072 chlamydia t
421	VFX_SIVMK	1	112	43.8	32	43.8	32	43.8	464	1	NU4M_PARUT	P12775 paracentrot
422	VFX_SIVML	1	112	43.8	32	43.8	32	43.8	494	1	ICSB_SHIFL	P33546 shigella fl
423	YI45_THETN	1	118	43.8	32	43.8	32	43.8	501	1	ML05_ARATH	O22815 arabidopsis
424	APC4_RABIT	1	124	43.8	32	43.8	32	43.8	501	1	S3A3_HUMAN	Q28174 homo sapien
425	MSRB_RALSO	1	128	43.8	32	43.8	32	43.8	501	1	S3A3_MOUSE	Q9d554 mus musculu
426	NU1M_APTSA	1	130	43.8	32	43.8	32	43.8	508	1	VL1_HPVLIA	P03099 human papil
427	V341_BPMD2	1	145	43.8	32	43.8	32	43.8				
428	VE6_HPVE1	1	146	43.8	32	43.8	32	43.8				
429	GST2_HUMAN	1	147	43.8	32	43.8	32	43.8				
430	RACR_ECOLI	1	158	43.8	32	43.8	32	43.8				
431	COTF_BACSU	1	160	43.8	32	43.8	32	43.8				
432	UBCG_SCHPO	1	160	43.8	32	43.8	32	43.8				
433	BZRP_HUMAN	1	169	43.8	32	43.8	32	43.8				
434	RNRP_PHYPO	1	180	43.8	32	43.8	32	43.8				
435	XIN_TRIHA	1	190	43.8	32	43.8	32	43.8				
436	COX1_ALEUT	1	195	43.8	32	43.8	32	43.8				
437	AR61_HUMAN	1	203	43.8	32	43.8	32	43.8				
438	AR61_MOUSE	1	203	43.8	32	43.8	32	43.8				
439	YF52_HABIN	1	215	43.8	32	43.8	32	43.8				
440	XYN2_TIRE	1	222	43.8	32	43.8	32	43.8				
441	RNLF_LYCES	1	230	43.8	32	43.8	32	43.8				
442	RS3_AQUPI	1	231	43.8	32	43.8	32	43.8				
443	SPH_HUMAN	1	232	43.8	32	43.8	32	43.8				
444	YGCO_YEAST	1	235	43.8	32	43.8	32	43.8				
445	RNLX_LYCES	1	237	43.8	32	43.8	32	43.8				
446	RNRH_RHINI	1	238	43.8	32	43.8	32	43.8				
447	LEGE_RABIT	1	241	43.8	32	43.8	32	43.8				
448	UFO4_MANES	1	241	43.8	32	43.8	32	43.8				
449	MTR2_SINAL	1	243	43.8	32	43.8	32	43.8				
450	PYRF_XANAC	1	243	43.8	32	43.8	32	43.8				
451	PYRF_XANAC	1	243	43.8	32	43.8	32	43.8				
452	MYR1_SINAL	1	244	43.8	32	43.8	32	43.8				
453	RS3_DEIRA	1	244	43.8	32	43.8	32	43.8				
454	SPN2_HUMAN	1	258	43.8	32	43.8	32	43.8				
455	CAPB_DROME	1	276	43.8	32	43.8	32	43.8				
456	RNT2_ASPOR	1	276	43.8	32	43.8	32	43.8				
457	A41_DEIDO	1	288	43.8	32	43.8	32	43.8				
458	NU1M_ARTSF	1	298	43.8	32	43.8	32	43.8				
459	LCAT_ELIQU	1	299	43.8	32	43.8	32	43.8				
460	PRMA_SYNEL	1	299	43.8	32	43.8	32	43.8				
461	MTH3_HARIN	1	309	43.8	32	43.8	32	43.8				
462	HXCD_MOUSE	1	328	43.8	32	43.8	32	43.8				
463	HXCD_HUMAN	1	330	43.8	32	43.8	32	43.8				
464	HEMZ_PSEAE	1	340	43.8	32	43.8	32	43.8				
465	GLN1_ANLGL	1	356	43.8	32	43.8	32	43.8				
466	GLN2_VITVI	1	356	43.8	32	43.8	32	43.8				
467	GLN1_MAIZE	1	357	43.8	32	43.8	32	43.8				
468	GLN5_MAIZE	1	357	43.8	32	43.8	32	43.8				
469	GLN4_PINSY	1	357	43.8	32	43.8	32	43.8				
470	SPR1_HUMAN	1	365	43.8	32	43.8	32	43.8				
471												

ALIGNMENTS

RESULT 1

GN2_CHICK	STANDARD;	PRT;	10 AA.
ID	P37043; P20408; P81750;		
AC	01-FEB-1991 (Rel. 17, Created)		
DT	01-FEB-1991 (Rel. 17, Last sequence update)		
DE	28-FEB-2003 (Rel. 41, Last annotation update)		
DE	Gonadoliberin II (Gonadotropin-releasing hormone II) (GNRH-II)		
DE	(LH-RH II) (Luliberin II).		
OS	Gallus gallus (Chicken).		
OS	Alligator mississippiensis (American alligator),		
OS	Squalus acanthias (Spiny dogfish),		
OS	Hydrolagus colliei (Spotted ratfish) (Pacific ratfish), and		
OS	Clupea pallasii (Pacific herring).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Archosauria; Aves; Neognathae; Galliformes; Phasianidae;		
OC	Gallus.		
OX	NCBI_TaxID=9031, 8496, 7797, 7873, 30724;		
RN	[1]		
RP	SEQUENCE.		
RC	SPECIES=Chicken; TISSUE=Hypothalamus;		
RX	MEDLINE=84222059; PubMed=6427779;		
RX	Miyamoto K., Hasegawa Y., Nomura M., Igarashi M., Kangawa K.,		
RA	Matsuo H.		
RT	"Identification of the second gonadotropin-releasing hormone in		
RT	chicken hypothalamus: evidence that gonadotropin secretion is		
RT	probably controlled by two distinct gonadotropin-releasing hormones		
RT	in avian species.";		
RL	Proc. Natl. Acad. Sci. U.S.A. 81:3874-3878(1984).		
RN	[2]		
RP	SEQUENCE.		
RC	SPECIES=A. mississippiensis; TISSUE=Brain;		
RX	MEDLINE=93352338; PubMed=1862082;		
RA	Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M.,		
RA	Lance V., Swanson P., Rivier J.E., Sherwood N.M.;		
RT	"Primary structure of two forms of gonadotropin-releasing hormone		
RT	from brains of the American alligator (Alligator mississippiensis).";		
RL	Regul. Pept. 33:105-116(1991).		
RN	[3]		

RP SEQUENCE.
 RC SPECIES=S.acanthias; TISSUE=Brain;
 RX MEDLINE=9233300; PubMed=1631133;
 RA Lovejoy D.A., Fischer W.H., Ngamvongchon S., Craig A.G.,
 RA Nahorniak C.S., Peter R.E., Rivier J.E., Sherwood N.M.;
 RT "Distinct sequence of gonadotropin-releasing hormone (GnRH) in
 RT dogfish brain provides insight into GnRH evolution.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:6373-6377(1992).
 RN [4]
 RP SEQUENCE.
 RC SPECIES=H.colliet; TISSUE=Brain;
 RX MEDLINE=91340067; PubMed=1678723;
 RA Lovejoy D.A., Sherwood N.M., Fischer W.H., Jackson B.C., Rivier J.E.,
 RA Lee T.;
 RT "Primary structure of gonadotropin-releasing hormone from the brain
 RT of a holoccephalan (ratfish: Hydrologus colliet).";
 RL Gen. Comp. Endocrinol. 82:152-161(1991).
 RN [5]
 RP SEQUENCE, AND FUNCTION.
 RC SPECIES=C.pallasii; TISSUE=Brain, and Pituitary;
 RX MEDLINE=20114351; PubMed=10650929;
 RA Carolsfeld J., Powell J.F.F., Park M., Fischer W.H., Craig A.G.,
 RA Chang J.P., Rivier J.E., Sherwood N.M.;
 RT "Primary structure and function of three gonadotropin-releasing
 RT hormones, including a novel form, from an ancient teleost, herring.";
 RL Endocrinology 141:505-512(2000).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 DR PIR; A61126; A61126.
 DR PIR; B60066; RHAQ2.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KM Hormone; Amidation; Hypothalamus; Pyrrolidone carboxylic acid.
 FT MOD_RES 10 10 PYRROLIDONE CARBOXYLIC ACID.
 FT MOD_RES 10 10 AMIDATION.
 SQ SEQUENCE 10 AA; 1254 MW; 284B2E437871F5A3 CRC64;
 Query Match 95.9%; Score 70; DB 1; Length 10;
 Best Local Similarity 90.0%; Pred. No. 7.3e-05;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYGP 10
 :|||||
 DB 1 QHWSHGWP 10
 RESULT 2
 GON2-ORVLA STANDARD; PRT; 80 AA.
 AC QPDG9; Q8JQ5;
 DT 10-OCT-2003 (Rel. 42, Created)
 DT 10-OCT-2003 (Rel. 42, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Progonadoliberein II precursor (Chicken-type II gonadotropin-releasing
 DE hormone) (GnRH-II) [Contains: Gonadoliberein II (LH-RH II)
 DE (luteinizing hormone releasing hormone II) (Gonadotropin-releasing
 DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide II].
 OS Oryzias latipes (Medaka fish) (Japanese ricefish).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
 OC Belontiiformes; Adrianchthyidae; Oryziinae; Oryzias.
 CX NCBI_TaxID=8090;
 [1]
 RN SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
 RP TISSUE=Brain;
 RC MEDLINE=20462954; PubMed=11006121;
 RX Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
 RA "A novel form of gonadotropin-releasing hormone in the medaka,
 RT Oryzias latipes.";

RL Biochem. Biophys. Res. Commun. 276:298-303(2000).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=HNI, and Himekaka;
 RX MEDLINE=2213319; PubMed=12137956;
 RA Okubo K., Mitani H., Naruse K., Kondo M., Shima A., Tanaka M.,
 RA Asakawa S., Shimizu N., Yoshiura Y., Aida K.;
 RT "Structural characterization of GnRH loci in the medaka genome.";
 RL Gene 293:181-189(2002).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
 CC similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Expressed in the cell bodies of a cluster of
 CC neurons in the midbrain tegmentum.
 CC -!- MISCELLANEOUS: Teleost species possess three paralogous GnRHs:
 CC mGnRH and cGnRH-II have been identified in tetrapods; sGnRH has
 CC no tetrapod ortholog and is thought to be a duplication of cGnRH-
 CC II.
 CC -!- SIMILARITY: Belongs to the GnRH family.

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 DR EMBL; AB041330; BAB16300.1; -;
 DR EMBL; AB041334; BAC06417.1; -;
 DR EMBL; AB074500; BAC06423.1; -;
 DR PIR; JC7394; JC7394.
 DR GO; GO:0005576; C:extracellular; ISS.
 DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; ISS.
 DR GO; GO:0007275; P:development; ISS.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KM Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 KW Multigene family; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 21 BY SIMILARITY.
 FT CHAIN 22 80 PROGONADOLIBERIN II.
 FT PEPTIDE 22 31 GONADOLIBERIN II.
 FT PEPTIDE 35 80 GnRH-ASSOCIATED PEPTIDE II.
 FT MOD_RES 22 22 PYRROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT MOD_RES 31 31 AMIDATION (G-32 PROVIDE AMIDE GROUP) (BY
 FT SIMILARITY).
 FT CONFLICT 50 50 T -> A (IN REF. 2; BAC06423).
 FT CONFLICT 55 55 Y -> F (IN REF. 2; BAC06423).
 FT CONFLICT 62 62 S -> N (IN REF. 2; BAC06423).
 FT CONFLICT 71 71 A -> T (IN REF. 2; BAC06423).
 SQ SEQUENCE 80 AA; 9311 MW; CAE8F1B06B9AF26E CRC64;
 Query Match 95.9%; Score 70; DB 1; Length 80;
 Best Local Similarity 90.0%; Pred. No. 0.00055;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYGP 10
 :|||||
 DB 22 QHWSHGWP 31
 RESULT 3
 GON2-DICLA STANDARD; PRT; 85 AA.
 ID GON2-DICLA
 AC Q9IA08;
 DT 16-OCT-2001 (Rel. 40, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberein II precursor (Gonadotropin-releasing hormone II)
 DE (GnRH-II) (LH-RH II) (Luliberin II).
 GN GnRH2.

CC -1- TISSUE SPECIFICITY: Olfactory bulbs, hypothalamus and
 CC telencephalon, midbrain and posterior brain areas.
 CC -1- SIMILARITY: Belongs to the GnRH family.
 CC -----
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 CC -----
 CC EMBL; U30386; AAC59858.1; -;
 CC EMBL; U40568; AAB87138.1; -;
 CC InterPro: IPR002012; GnRH.
 CC Pfam: PF00446; GnRH; 1.
 CC PROSITE: PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Signal; Pyrrolidone carboxylic acid.
 CC BY SIMILARITY.
 CC SIGNAL 1 24
 CC CHAIN 25 86
 CC PEPTIDE 25 34
 CC PEPTIDE 25 34
 CC PEPTIDE 38 86
 CC MOD_RES 25 25
 CC MOD_RES 25 25
 CC MOD_RES 34 34
 CC MOD_RES 34 34
 CC SEQUENCE 86 AA; 9770 MW; 31498ED8EC9D8D54 CRC64;
 CC -----
 CC Query Match 95.9%; Score 70; DB 1; Length 86;
 CC Best Local Similarity 90.0%; Pred. No. 0.00059;
 CC Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 CC -----
 CC QY 1 EHWSHGWYPG 10
 CC :|||||||
 CC Db 25 QHWSHGWP 34
 CC -----
 CC RESULT 8
 CC GO2B_CARAU STANDARD; PRT; 86 AA.
 CC AC 042471;
 CC DT 28-FEB-2003 (Rel. 41, Created)
 CC DT 28-FEB-2003 (Rel. 41, Last sequence update)
 CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
 CC DE Progonadoliberein IIB precursor [Contains: Gonadoliberein II (LH-RH II)
 CC (luteinizing hormone-releasing hormone II) (Gonadotropin-releasing
 CC hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide IIB].
 CC GN GNRH2B.
 CC OS Carassius auratus (Goldfish).
 CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
 CC OC Cyprinidae; Carassius.
 CC OX NCBI_TaxID=7957;
 CC RN [1]
 CC RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
 CC RC STRAIN=Comet, and Common; TISSUE=Liver;
 CC RX MEDLINE=97426020; PubMed=9289408;
 CC RA Lin X.-W., Peter R.E.;
 CC RT "Cloning and expression pattern of a second
 CC [Hs5trp77y8]gonadotropin-releasing hormone (chicken GnRH-H-II) mRNA
 CC in goldfish: evidence for two distinct genes."
 CC RL Gen. Comp. Endocrinol. 107:262-272(1997).
 CC -1- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: Olfactory bulbs, hypothalamus and
 CC telencephalon, midbrain and posterior brain areas.
 CC -1- SIMILARITY: Belongs to the GnRH family.
 CC -----
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 CC -----
 CC EMBL; U40567; AAB86989.1; -;
 CC EMBL; U40665; AAB86990.1; -;
 CC InterPro: IPR002012; GnRH.
 CC Pfam: PF00446; GnRH; 1.
 CC PROSITE: PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 CC Pyrrolidone carboxylic acid.
 CC BY SIMILARITY.
 CC SIGNAL 1 24
 CC CHAIN 25 86
 CC PEPTIDE 25 34
 CC PEPTIDE 38 86
 CC MOD_RES 25 25
 CC MOD_RES 34 34
 CC MOD_RES 34 34
 CC SEQUENCE 86 AA; 9917 MW; AC1778CE75C1C313 CRC64;
 CC -----
 CC Query Match 95.9%; Score 70; DB 1; Length 86;
 CC Best Local Similarity 90.0%; Pred. No. 0.00059;
 CC Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 CC -----
 CC QY 1 EHWSHGWYPG 10
 CC :|||||||
 CC Db 25 QHWSHGWP 34
 CC -----
 CC RESULT 9
 CC GON2_CLAGA STANDARD; PRT; 86 AA.
 CC ID_GON2_CLAGA
 CC AC E43306;
 CC DT 01-NOV-1995 (Rel. 32, Created)
 CC DT 01-NOV-1995 (Rel. 32, Last sequence update)
 CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
 CC DE Gonadoliberein II precursor (Gonadotropin-releasing hormone II)
 CC (GnRH-II) (LH-RH II) (Luliberin II).
 CC GN GNRH2.
 CC OS Clarias gariepinus (Sharptooth catfish) (African catfish).
 CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Siluriformes;
 CC OC Clariidae; Clarias.
 CC OX NCBI_TaxID=13013;
 CC RN [1]
 CC RP SEQUENCE FROM N.A.
 CC RC TISSUE=Brain;
 CC RX MEDLINE=94291651; PubMed=8020432;
 CC RA Bogerd J., Zandbergen T., Andersson E., Goos H.;
 CC RT "Isolation, characterization and expression of cDNAs encoding the
 CC catfish-type and chicken-II-type gonadotropin-releasing-hormone
 CC precursors in the African catfish."
 CC RL Eur. J. Biochem. 222:541-549(1994).
 CC RN [2]
 CC RP SEQUENCE OF 25-34.
 CC RC TISSUE=Brain;
 CC RX MEDLINE=92392313; PubMed=1520292;
 CC RA Bogerd J., Li K.W., Janssen-Dommerholt C., Goos H.;
 CC RT "Two gonadotropin-releasing hormones from African catfish (Clarias
 CC gariepinus)."
 CC RL Biochem. Biophys. Res. Commun. 187:127-134(1992).
 CC -1- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- SIMILARITY: Belongs to the GnRH family.
 CC -----
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DR EMBL; X78047; CAA54969.1; -
DR PIR; S45600; RHID28.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 24
FT CHAIN 25 86
FT PEPTIDE 25 34
FT PEPTIDE 38 86
FT MOD_RES 25 25
FT MOD_RES 34 34
FT MOD_RES 38 86
FT MOD_RES 25 25
SQ SEQUENCE 86 AA; 9766 MW; 4AD9F24597E77EBF CRC64;

Query Match 95.9%; Score 70; DB 1; Length 86;
Best Local Similarity 90.0%; Pred. No. 0.00059;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db :|||||
25 QHWSHGWPY 34

RESULT 10
GON2_ONCMY STANDARD; PRT; 86 AA.
AC Q4241;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin II precursor (Gonadotropin-releasing hormone II)
DE (GnRH-II) (LH-RH II) (Luliberin II).
GN GNRH2.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri)...
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RA Penlington M.C.;
RL Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
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CC
CC EMBL; AF023618; AAB82559.1; -
CC InterPro; IPR002012; GnRH.
CC Pfam; PF00446; GnRH; 1.
CC PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 24
FT CHAIN 25 86
FT PEPTIDE 25 34
FT PEPTIDE 38 86
FT MOD_RES 25 25
FT MOD_RES 34 34
FT MOD_RES 38 86
SQ SEQUENCE 86 AA; 9723 MW; D6ED59151DC9915 CRC64;

Query Match 95.9%; Score 70; DB 1; Length 86;
Best Local Similarity 90.0%; Pred. No. 0.00059;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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QY 1 EHWSHGWYPG 10
Db :|||||
25 QHWSHGWPY 34

RESULT 11
GON2_RUTRU STANDARD; PRT; 86 AA.
AC Q91330;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin II precursor (Gonadotropin-releasing hormone II)
DE (GnRH-II) (LH-RH II) (Luliberin II).
GN GNRH2.
OS Rutilus rutilus (Roach).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Rutilus.
OX NCBI_TaxID=48668;
RN [1]
RP SEQUENCE FROM N.A.
RA Penlington M.C.; Williams M.A.; Sumpter J.P.; Rand-Weaver M.;
RA Hoole D.; Arme C.;
RT Isolation and characterisation of mRNA encoding the salmon- and
RT chicken- II type gonadotropin-releasing hormones in the teleost fish
RT Rutilus rutilus (Cyprinidae)".
RL J. Mol. Endocrinol. 19:337-346(1997).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
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CC
CC EMBL; U60668; AAB65770.1; -
CC InterPro; IPR002012; GnRH.
CC Pfam; PF00446; GnRH; 1.
CC PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 24
FT CHAIN 25 86
FT PEPTIDE 25 34
FT PEPTIDE 38 86
FT MOD_RES 25 25
FT MOD_RES 34 34
FT MOD_RES 38 86
SQ SEQUENCE 86 AA; 9838 MW; 931E886357715P40 CRC64;

Query Match 95.9%; Score 70; DB 1; Length 86;
Best Local Similarity 90.0%; Pred. No. 0.00059;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db :|||||
25 QHWSHGWPY 34

RESULT 12
GON2_RANCA STANDARD; PRT; 93 AA.
ID GON2_RANCA
AC Q9D336; Q90Y64;
DT 10-OCT-2003 (Rel. 42, Created)

```

DT 10-OCT-2003 (Rel. 42, Last sequence update)
 DE Progonadoliberin II precursor [Contains: Gonadoliberin II (LHRH II)
 DE (luteinizing hormone releasing hormone II) (Gonadotropin-releasing
 DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide II
 DE (GAP2)].
 DN GNRH2 OR GNRH II.
 OS Rana catesbeiana (Bull frog).
 OC Amphibia; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Anura; Batrachia; Anura; Neobatrachia; Ranidae; Rana.
 OX NCBI_TaxID=8400;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2), TISSUE SPECIFICITY, AND
 RP DEVELOPMENTAL STAGE.
 RC TISSUE=Hindbrain; and Midbrain;
 RX MEDLINE=21102951; PubMed=11170016;
 RA Wang L., Yoo M.S., Kang H.M., Im W.B., Choi H.S., Bogerd J.,
 RA Kwon H.B.;
 RT "Cloning and characterization of cDNAs encoding the GnRH1 and GnRH2
 RT precursors from bullfrog (Rana catesbeiana).";
 RL J. Exp. Zool. 289:190-201(2001).
 CC -|- FUNCTION: Stimulates the secretion of gonadotropins (By
 CC similarity).
 CC -|- SUBCELLULAR LOCATION: Secreted.
 CC -|- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=2;
 CC Name=1;
 CC IsoId=Q9DG36-1; Sequence=Displayed;
 CC Name=2;
 CC IsoId=Q9DG36-2; Sequence=VSP_050476;
 CC -|- TISSUE SPECIFICITY: Midbrain and hindbrain.
 CC -|- DEVELOPMENTAL STAGE: Expressed at significantly higher levels
 CC during hibernation and post-breeding. Not expressed in pituitary.
 CC -|- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 DR EMBL; AF192464; AAC21894.1; -
 DR EMBL; AF186096; AAL05971.1; -
 DR GO; GO:0005576; C:extracellular; NAS.
 DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; NAS.
 DR GO; GO:0009755; P:hormone mediated signaling; NAS.
 DR GO; GO:0000003; P:reproduction; NAS.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 KW Alternative splicing; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 23
 FT CHAIN 25 93 PROGNADOLIBERIN II.
 FT PEPTIDE 25 34 GONADOLIBERIN II.
 FT PEPTIDE 38 93 GnRH-ASSOCIATED PEPTIDE II.
 FT MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT MOD_RES 34 34 AMIDATION (G-35 PROVIDE AMIDE GROUP) (BY
 FT SIMILARITY).
 FT VARSPLOC 75 82 Missing (in isoform 2).
 FT /FTId=VSP_050476.
 SQ SEQUENCE 93 AA; 10668 MW; B3DE9920DCF6EAA9 CRC64;
 Query Match 95.9%; Score 70; DB 1; Length 93;
 Best Local Similarity 90.0%; Pred. No. 0.00064;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYFG 10
 :|||||
 Db 25 QHWSHGWTYPG 34

RESULT 13
 ID GON2_SUNMU STANDARD; PRT; 110 AA.
 AC O97686;
 DT 16-OCT-2001 (Rel. 40, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Progonadoliberin II precursor [Contains: Gonadoliberin II (LH-RH II)
 DE (luteinizing hormone-releasing hormone II) (Gonadotropin-releasing
 DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide II].
 DN GNRH2.
 OS Suncus murinus (House shrew) (Musk shrew).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Insectivora; Soricidae; Crocidurinae; Suncus.
 OX NCBI_TaxID=9378;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RA White R.B., Kasten T.L., White S.A., Rissman E.F., Fernald R.D.;
 RT "GnRH-II cDNA expression in the musk shrew.";
 RL Submitted (NOV-1998) to the EMBL/GenBank/DBJ databases.
 CC -|- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones (By similarity).
 CC -|- SUBCELLULAR LOCATION: Secreted.
 CC -|- TISSUE SPECIFICITY: MIDBRAIN.
 CC -|- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 DR EMBL; AF107315; AAD09114.1; -
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 KW Pyrrolidone carboxylic acid.
 FT SIGNAL 1 26
 FT CHAIN 27 110 PROGNADOLIBERIN II.
 FT PEPTIDE 27 36 GONADOLIBERIN II.
 FT PEPTIDE 40 110 GnRH-ASSOCIATED PEPTIDE II.
 FT MOD_RES 27 27 PYRROLIDONE CARBOXYLIC ACID
 FT (BY SIMILARITY).
 FT MOD_RES 36 36 AMIDATION (G-37 PROVIDE AMIDE GROUP).
 SQ SEQUENCE 110 AA; 12120 MW; AB986905FB83D9DB CRC64;
 Query Match 95.9%; Score 70; DB 1; Length 110;
 Best Local Similarity 90.0%; Pred. No. 0.00075;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYFG 10
 :|||||
 Db 27 QHWSHGWTYPG 36
 RESULT 14
 ID GON2_TUPGB STANDARD; PRT; 114 AA.
 AC Q95336;
 DT 15-DEC-1998 (Rel. 37, Created)
 DT 15-DEC-1998 (Rel. 37, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Progonadoliberin II precursor [Contains: Gonadoliberin II (LH-RH II)
 DE (luteinizing hormone-releasing hormone II) (Gonadotropin-releasing
 DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide II].
 DN GNRH2.

OS Tupaia glis belangeri (Common tree shrew).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaiia.
 OX NCBI_TaxID=37347;
 RN [1]
 RN SEQUENCE FROM N.A.
 RC MEDLINE=97079639; PubMed=9211350;
 RX Kasten T.L., White S.A., Norton T.T., Bond C.T., Adelman J.P.,
 RA Fernald R.D.;
 RA "Characterization of two new preproGnRH mRNAs in the tree shrew:
 RT first direct evidence for mesencephalic GnRH gene expression in a
 RT placental mammal.";
 RL Gen. Comp. Endocrinol. 104:7-19(1996).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: MIDBRAIN.
 CC -!- SIMILARITY: Belongs to the GnRH family.
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 CC -----
 CC EMBL; U63327; AAB16838.1;
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 KW Pyroglutamate carboxylic acid.
 FT SIGNAL 1 25 BY SIMILARITY.
 FT CHAIN 26 114 PROGNADOLIBERIN II.
 FT PEPTIDE 26 35 GONADOLIBERIN II.
 FT PEPTIDE 39 114 GnRH-ASSOCIATED PEPTIDE II.
 FT MOD_RES 26 26 PYROGLUTAMATE CARBOXYLIC ACID
 FT (BY SIMILARITY).
 FT MOD_RES 35 35 AMIDATION (G-36 PROVIDE AMIDE GROUP).
 SQ SEQUENCE 114 AA; 12123 MW; 680E90E1C6869EC1 CRC64;
 Query Match 95.9%; Score 70; DB 1; Length 114;
 Best Local Similarity 90.0%; Pred. No. 0.00077;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EHWSHGWYGP 10
 DB 26 QHWSHGWP 35
 RESULT 15
 ID_GON2 HUMAN STANDARD; PRT; 120 AA.
 AC Q43555; Q9BYN9; Q9BYN9;
 DT 15-DEC-1998 (Rel. 37, Created)
 DT 15-DEC-1998 (Rel. 37, Last sequence update)
 DE Prognadoliberin II precursor [Contains: Gonadoliberin II (LH-RH II)
 DE (luteinizing hormone-releasing hormone II) (Gonadotropin-releasing
 DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide II].
 GN GnRH2.
 OS Homo sapiens (Human).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RN SEQUENCE FROM N.A. (ISOFORM 1).
 RX MEDLINE=98081869; PubMed=9419371;
 RA White R.B., Eisen J.A., Kasten T.L., Fernald R.D.;
 RA "Second gene for gonadotropin-releasing hormone in humans.";
 RT

Proc. Natl. Acad. Sci. U.S.A. 95:305-309(1998).
 [2]
 RN SEQUENCE FROM N.A. (ISOFORMS 1; 2 AND 3).
 RX MEDLINE=21638749; PubMed=11780052;
 RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
 RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Baggeley C.L.,
 RA Bailey J., Barlow K.F., Bates K.N., Beare L.M., Beare D.M.,
 RA Beasley O.P., Bird C.P., Blakey S.B., Bridgeman A.M., Brown A.J.,
 RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
 RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
 RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
 RA Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
 RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
 RA Graffham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
 RA Hammond S., Hawley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
 RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
 RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
 RA Lehaealaho M.H., Leveraha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
 RA Marsh V.L., Martin S.L., McConachie L.J., McLay K., McMurray A.A.,
 RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
 RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
 RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
 RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Showkhen R., Sims S.,
 RA Stuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
 RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
 RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
 RA Whitehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A.,
 RA Wilmink L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.;
 RT "The DNA sequence and comparative analysis of human chromosome 20.";
 Nature 414:865-871(2001).
 RL -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=3;
 CC Comment=Experimental confirmation may be lacking for some
 CC isoforms;
 CC Name=1;
 CC IsoId=O43555-1; Sequence=Displayed;
 CC Name=2;
 CC IsoId=O43555-2; Sequence=VSP_001825;
 CC Name=3;
 CC IsoId=O43555-3; Sequence=VSP_001826;
 CC TISSUE SPECIFICITY: MIDBRAIN; EXPRESSED AT SIGNIFICANTLY HIGHER
 CC LEVELS OUTSIDE THE BRAIN (UP TO 30-FOLD), PARTICULARLY IN THE
 CC KIDNEY, BONE MARROW, AND PROSTATE.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC -----
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 CC -----
 CC EMBL; AF036329; AAC02980.1; -;
 DR EMBL; AF036330; AAC02981.1; -;
 DR EMBL; AL121905; CAC10338.1; -;
 DR EMBL; AL121905; CAC29100.1; -;
 DR EMBL; AL121905; CAC29101.1; -;
 DR Genbank; HGNC:4420; GNRH2.
 DR MIN; 602352; -;
 DR GO; GO:0005625; C:soluble fraction; TAS.
 DR GO; GO:0005179; F:hormone activity; TAS.
 DR GO; GO:0007165; P:signal transduction; TAS.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 KW Alternative splicing; Pyroglutamate carboxylic acid.

FT SIGNAL 1 23 POTENTIAL.
FT CHAIN 24 120 PROGNADOLIBERIN II.
FT PEPTIDE 24 33 GONADOLIBERIN II.
FT PEPTIDE 39 120 GNRH-ASSOCIATED PEPTIDE II.
FT MOD_RES 24 24 PYROLIDONE CARBOXYLIC ACID
(BY SIMILARITY).
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
FT VARSPPLIC 52 59 Missing (in isoform 2).
FT VARSPPLIC 52 58 Missing (in isoform 3).
FT VARSPPLIC 52 58 Missing (in isoform 3).
FT SEQUENCE 120 AA; 12917 MW; D58CDAL1B6D6FB8D CRC64;
Query Match 95.9%; Score 70; DB 1; Length 120;
Best Local Similarity 90.0%; Pred. No. 0.00081;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 24 QHWSHGWLPG 33
RESULT 16
GONL SQAC STANDARD; PRT; 10 AA.
AC P27429;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin (Gonadotropin-releasing hormone) (GNRH) (LH-RH)
(Luliberin).
OS Squalus acanthias (Spiny dogfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
OC Elasmobranchii; Squala; Squaloidei; Squalidae; Squalus.
OX NCBI_TaxID=7797;
RN [1]
RP SEQUENCE.
RC TISSUE=Brain;
RX MEDLINE=92335300; PubMed=1631133;
RA Lovejoy D.A., Fischer W.H., Ngamvongchon S., Craig A.G.,
RA Nahorniak C.S., Peter R.E., Rivier J.E., Sherwood N.M.;
RT "Distinct sequence of gonadotropin-releasing hormone (GNRH) in
RT dogfish brain provides insight into GNRH evolution."
RL Proc. Natl. Acad. Sci. U.S.A. 89:6373-6377(1992).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
DR PIR; A46030; A46030.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Hormone; Amidation; Hypothalamus; Pyroglutamate carboxylic acid.
FT MOD_RES 1 10 PYROLIDONE CARBOXYLIC ACID.
FT MOD_RES 10 10 AMIDATION.
FT SEQUENCE 10 AA; 1204 MW; 284B32337871F5A3 CRC64;
Query Match 84.9%; Score 62; DB 1; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.0011;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 1 QHWSHGWLPG 10
RESULT 17
GON3 ONCKE STANDARD; PRT; 10 AA.
AC P20367; P81751;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin III (Gonadotropin-releasing hormone III) (GNRH-III) (LH-

DE RH III) (Luliberin III).
GN GNRH3.
OS Oncorhynchus keta (Chum salmon), and
OS Clupea pallasi (Pacific herring).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8018, 30724;
RN [1]
RP SEQUENCE.
RC SPECIES=O.keta;
RX MEDLINE=83195140; PubMed=6341999;
RA Sherwood N., Eiden L., Brownstein M., Spiess J., Rivier J., Vale W.;
RT "Characterization of a teleost gonadotropin-releasing hormone."
RL Proc. Natl. Acad. Sci. U.S.A. 80:2794-2798(1983).
RN [2]
RP SEQUENCE, AND FUNCTION.
RC SPECIES=C.pallasi; TISSUE=Brain, and Pituitary;
RX MEDLINE=20114351; PubMed=10650929;
RA Carlsfeld J., Powell J.F.F., Park M., Fischer W.H., Craig A.G.,
RA Chang J.P., Rivier J.E., Sherwood N.M.;
RT "Primary structure and function of three gonadotropin-releasing
RT hormones, including a novel form, from an ancient teleost, herring."
RL Endocrinology 141:505-512(2000).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC the secretion of both luteinizing and follicle-stimulating
CC hormones.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
DR PIR; A21114; A21114.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Hormone; Amidation; Hypothalamus; Pyroglutamate carboxylic acid.
FT MOD_RES 1 10 PYROLIDONE CARBOXYLIC ACID.
FT MOD_RES 10 10 AMIDATION.
FT SEQUENCE 10 AA; 1230 MW; 284B3233786B45A3 CRC64;
Query Match 76.7%; Score 56; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.008;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 1 QHWSHGWLPG 10
RESULT 18
GON3 ONCMY STANDARD; PRT; 74 AA.
AC P55246;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
(GNRH-III) (LH-RH III) (Luliberin III) (Fragment).
GN GNRH3.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Muscle;
RA Klungland H., Anderson O., Alestrom P.;
RT "The salmon gonadotropin-releasing hormone encoding gene in
RT salmonids." N
RL Mol. Mar. Biol. Biotechnol. 1:420-425(1992).
RN [2]
RP SEQUENCE OF 1-65 FROM N.A.
RX MEDLINE=93386322; PubMed=1308825;
RA Alestrom P., Kisen G., Klungland H., Andersen O.;

RT "Fish gonadotropin-releasing hormone gene and molecular approaches
 RT for control of sexual maturation: development of a transgenic fish
 model.";
 RL Mol. Mar. Biol. Biotechnol. 1:376-379(1992).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 DR EMBL; X79710; CAA56149.1; -;
 DR EMBL; S65569; AAD13966.1; -;
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Pyrrolidone carboxylic acid.
 FT NON_TER 1 1
 FT SIGNAL <1 15 BY SIMILARITY.
 FT CHAIN 16 74 PROGNADOLIBERIN III.
 FT PEPTIDE 16 25 GONADOLIBERIN III.
 FT PEPTIDE 29 74 GnRH-ASSOCIATED PEPTIDE III.
 FT MOD_RES 16 16 PYRROLIDONE CARBOXYLIC ACID
 (BY SIMILARITY).
 FT MOD_RES 25 25 AMIDATION (G-26 PROVIDE AMIDE GROUP).
 FT SEQUENCE 74 AA; 8254 MW; BD63C46D8228EF84 CRC64;
 SQ
 Query Match 76.7%; Score 56; DB 1; Length 74;
 Best Local Similarity 70.0%; Pred. No. 0.055; 1; Indels 0; Gaps 0;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Qy 1 EHWSHGWYPG 10
 Db 16 QHWSYGLWPG 25
 :|||:|:|
 RESULT 19
 GON3 ONCTS STANDARD; PRT; 74 AA.
 AC Q92097;
 DT 15-DEC-1998 (Rel. 37, Created)
 DT 15-DEC-1998 (Rel. 37, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
 DE (GnRH-III) (LH-RH III) (Luliberin III) (Fragment).
 GN GNRH3.
 OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 OX NCBI_TaxID=74940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Muscle;
 RX MEDLINE=92267241; PubMed=1587389;
 RA Klungland H., Lorenz J.B., Andersen O., Kisen G.O., Alestroem P.;
 RT "The Atlantic salmon prepro-gonadotropin releasing hormone gene and
 RT mRNA.";
 RL Mol. Cell. Endocrinol. 84:167-174(1992).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 DR EMBL; X79711; CAA56150.1; -;
 DR PIR; I51092; I51092.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Pyrrolidone carboxylic acid.
 FT NON_TER 1 1
 FT SIGNAL <1 15 BY SIMILARITY.
 FT CHAIN 16 74 PROGNADOLIBERIN III.
 FT PEPTIDE 16 25 GONADOLIBERIN III.
 FT PEPTIDE 29 74 GnRH-ASSOCIATED PEPTIDE III.
 FT MOD_RES 16 16 PYRROLIDONE CARBOXYLIC ACID
 (BY SIMILARITY).
 FT MOD_RES 25 25 AMIDATION (G-26 PROVIDE AMIDE GROUP).
 FT SEQUENCE 74 AA; 8254 MW; BEAF0B783F80BF84 CRC64;
 SQ
 Query Match 76.7%; Score 56; DB 1; Length 74;
 Best Local Similarity 70.0%; Pred. No. 0.055; 1; Indels 0; Gaps 0;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 Qy 1 EHWSHGWYPG 10
 Db 16 QHWSYGLWPG 25
 :|||:|:|
 RESULT 20
 GON3 ONCMA STANDARD; PRT; 82 AA.
 ID GON3 ONCMA
 AC P30973;
 DT 01-JUL-1993 (Rel. 26, Created)
 DT 01-JUL-1993 (Rel. 26, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
 DE (GnRH-III) (LH-RH III) (Luliberin III).
 GN GNRH3.
 OS Oncorhynchus masou (Cherry salmon) (Masu salmon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 OX NCBI_TaxID=8020;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=92384893; PubMed=1515027;
 RA Suzuki M., Hyodo S., Kobayashi M., Aida K., Urano A.;
 RT "Characterization and localization of mRNA encoding the salmon-type
 RT gonadotropin-releasing hormone precursor of the masu salmon.";
 RL J. Mol. Endocrinol. 9:73-82(1992).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 DR EMBL; D10946; BAA01740.1; -;
 DR EMBL; S44614; AAB63599.1; -;
 DR PIR; I51180; I51180.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 23

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FT CHAIN          24      82      PROGNADOLIBERIN III.
FT PEPTIDE        24      33      GONADOLIBERIN III.
FT PEPTIDE        37      82      GNRH-ASSOCIATED PEPTIDE III.
FT MOD_RES        24      24      PYRROLIDONE CARBOXYLIC ACID
FT MOD_RES        33      33      (BY SIMILARITY).
FT MOD_RES        33      33      AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ SEQUENCE       82 AA; 9184 MW; 7595A0B9864B9B86 CRC64;

Query Match      76.7%; Score 56; DB 1; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.061;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWTPG 10
DB 24 QHWSYGWLPG 33

RESULT 21
GON3_SALSA
ID GON3_SALSA STANDARD; PRT; 82 AA.
AC P35629; P51920;
DT 01-JUN-1994 (Rel. 29, Created)
DT 01-JUN-1994 (Rel. 29, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III)
DE (Gnrh-III) (LH-RH III) (Luliberin III).
GN GNRH3.
OS Salmo salar (Atlantic salmon).
OS Salvelinus fontinalis (Brook trout) (Brook char), and
OS Oncorhynchus nerka (Sockeye salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OC NCBI_TaxID=8030, 8038, 8023;
RN [1]
RP SEQUENCE FROM N.A.
RC SPECIES=S.salar, and S.fontinalis; TISSUE=Hypothalamus;
RX MEDLINE=92267241; PubMed=1587389;
RA Klungland H., Lorens J.B., Andersen O., Kisen G.C., Alestroem P.;
RT "The Atlantic salmon prepro-gonadotropin releasing hormone gene and
RT mRNA.";
RL Mol. Cell. Endocrinol. 84:167-174 (1992).
RN [2]
RP SEQUENCE FROM N.A.
RC SPECIES=O.nerka; TISSUE=Liver;
RX MEDLINE=96227617; PubMed=8674859;
RA Coe I.R., von Schalburg K.R., Sherwood N.M.;
RT "Characterization of the pacific salmon gonadotropin-releasing hormone
RT gene, copy number and transcription start site.";
RL Mol. Cell. Endocrinol. 115:113-122 (1995).
RN [3]
RP SEQUENCE FROM N.A.
RC SPECIES=O.nerka; STRAIN=Nikko; TISSUE=Brain;
RX MEDLINE=96020547; PubMed=8546809;
RA Ashihara M., Suzuki M., Kubokawa K., Aida K., Urano A.;
RT "Two differing precursor genes for the salmon-type gonadotropin-
RT releasing hormone exist in salmonids.";
RL J. Mol. Endocrinol. 15:1-9 (1995).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Brain.
CC -!- SIMILARITY: Belongs to the GNRH family.
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CC
CC EMBL; X79709; CAA56148.1; -
CC EMBL; X74957; CAA52912.1; -

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DR EMBL; X79712; CAA56151.1; -
DR EMBL; X91408; CAA62951.1; -
DR EMBL; D31869; BAA06667.1; -
DR PIR; I51331; I51331.
DR PIR; I51356; I51355.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL        1      23      BY SIMILARITY.
FT CHAIN         24      82      PROGNADOLIBERIN III.
FT PEPTIDE       24      33      GONADOLIBERIN III.
FT PEPTIDE       37      82      GNRH-ASSOCIATED PEPTIDE III.
FT MOD_RES       24      24      PYRROLIDONE CARBOXYLIC ACID
FT MOD_RES       33      33      (BY SIMILARITY). PROVIDE AMIDE GROUP).
FT VARIANT       81      81      H -> Q.
SQ SEQUENCE      82 AA; 9143 MW; 8053F4E4A765408 CRC64;

Query Match      76.7%; Score 56; DB 1; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.061;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWTPG 10
DB 24 QHWSYGWLPG 33

RESULT 22
GON3_SALTR
ID GON3_SALTR STANDARD; PRT; 82 AA.
AC P45653;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Prognadoliberein III precursor [Contains; Gonadoliberein III
DE (luteinizing hormone releasing hormone III) (Gonadotropin-releasing
DE hormone III) (Gnrh-III) (LH-RH III) (Luliberin III); Gnrh-associated
DE peptide III].
GN GNRH3.
OS Salmo trutta (Brown trout).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OC NCBI_TaxID=8032;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Muscle;
RA Klungland H., Anderson O., Alestroem P.;
RT "The salmon gonadotropin-releasing hormone encoding gene in
RT salmonids.";
RL Mol. Mar. Biol. Biotechnol. 1:420-425 (1992).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
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CC or send an email to license@isb-sib.ch).
CC
CC EMBL; X79713; CAA56152.1; -
CC PIR; I51365; I51365.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL        1      23

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FT CHAIN 24 82 PROGNADOLIBERIN III.
FT PEPTIDE 24 33 GONADOLIBERIN III.
FT PEPTIDE 37 82 GNRH-ASSOCIATED PEPTIDE III (POTENTIAL).
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ SEQUENCE 82 AA; 9191 MW; 805389534A765408 CRC64;

Query Match 76.7%; Score 56; DB 1; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.061;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYGP 10
Db 24 QHWSYGLPG 33

RESULT 23
GON3_PORNO STANDARD; PRT; 89 AA.
ID GON3_PORNO STANDARD; PRT; 89 AA.
AC P51922;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III)
DE (GNRH-III) (LH-RH III) (Luliberin III).
GN GNRH3.
OS Porichthys notatus (Plainfin midshipman).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Paracanthopterygii; Batrachoididae; Porichthys.
OX NCBI_TaxID=45384;
[1]
SEQUENCE FROM N.A.
RP MEDLINE=95385993; PubMed=7657161;
RX Grober M.S., Myers T.R., Marchaterra M.A., Bass A.H., Myers D.A.;
RA "Structure, localization, and molecular phylogeny of a Gnrh cDNA from
RT a paracanthopterygian fish, the plainfin midshipman (Porichthys
RT notatus).";
RL Gen. Comp. Endocrinol. 99:85-99(1995).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the Gnrh family.
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CC or send an email to license@isb-sib.ch).
CC EMBL; U41689; AAC59784.1; -
CC EMBL; S79620; AAB35188.1; -
CC InterPro; IPR002012; Gnrh.
CC Pfam; PF00446; Gnrh; 1.
CC PROSITE; PS00473; GNRH; 1.
CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
CC Signal; Pyrrolidone carboxylic acid.
CC SIGNAL 1 23 BY SIMILARITY.
CC CHAIN 24 82 GONADOLIBERIN III.
CC PEPTIDE 24 33 GONADOLIBERIN III.
CC PEPTIDE 37 82 GNRH-ASSOCIATED PEPTIDE III (POTENTIAL).
CC MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
CC (BY SIMILARITY).
CC MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
CC SEQUENCE 89 AA; 10118 MW; AED532789B9F1475 CRC64;

Query Match 76.7%; Score 56; DB 1; Length 89;
Best Local Similarity 70.0%; Pred. No. 0.066;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYGP 10
Db 24 QHWSYGLPG 33

RESULT 25
GON3_HAPSU STANDARD; PRT; 90 AA.
ID GON3_HAPSU STANDARD; PRT; 90 AA.
AC P45652;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)

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Db 24 QHWSYGLPG 33

RESULT 24
GON3_DICLA STANDARD; PRT; 90 AA.
ID GON3_DICLA STANDARD; PRT; 90 AA.
AC Q91A09;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III)
DE (GNRH-III) (LH-RH III) (Luliberin III).
GN GNRH3.
OS Dicentrarchus labrax (European sea bass).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Perciformes; Percidae;
OC Moronidae; Dicentrarchus.
OX NCBI_TaxID=13489;
[1]
SEQUENCE FROM N.A.
RP TISSUE=Brain;
RX MEDLINE=20540016; PubMed=11086295;
RA Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I., Zanuy S.,
RA Zohar Y., Elizur A., Munoz-Cueto J.A., Kah O.;
RT "Differential expression of three different prepro-Gnrh
RT (gonadotropin-releasing hormone) messengers in the brain of the
RT european sea bass (Dicentrarchus labrax).";
RL J. Comp. Neurol. 429:144-155(2001).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
CC similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the Gnrh family.
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC EMBL; AF224280; AAF62899.1; -
CC InterPro; IPR002012; Gnrh.
CC Pfam; PF00446; Gnrh; 1.
CC PROSITE; PS00473; GNRH; 1.
CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
CC Signal; Pyrrolidone carboxylic acid.
CC SIGNAL 1 23 BY SIMILARITY.
CC CHAIN 24 90 GONADOLIBERIN III.
CC PEPTIDE 24 33 GONADOLIBERIN III.
CC PEPTIDE 37 82 GNRH-ASSOCIATED PEPTIDE III (POTENTIAL).
CC MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
CC (BY SIMILARITY).
CC MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
CC SEQUENCE 90 AA; 10154 MW; B06A7BA413930C67 CRC64;

Query Match 76.7%; Score 56; DB 1; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.067;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYGP 10
Db 24 QHWSYGLPG 33

RESULT 25
GON3_HAPSU STANDARD; PRT; 90 AA.
ID GON3_HAPSU STANDARD; PRT; 90 AA.
AC P45652;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)

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DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
DE (GNRH-III) (LH-RH III) (Luliberin III).
GN GNRH3.
OS Haplochromis burtoni (Burton's mouthbrooder).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidae;
OC Cichlidae; Astatotilapia.
OX NCBI_TaxID=8153;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92049375; PubMed=1944299;
RA Bond C.T., Francis R.C., Fernald R.D., Adelman J.P.;
RT "Characterization of complementary DNA encoding the precursor for
RT gonadotropin-releasing hormone and its associated peptide from a
RT teleost fish."
RL Mol. Endocrinol. 5:931-937(1991).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: EXPRESSED ONLY IN THE TERMINAL NERVE NUCLEUS
CC OF THE TELECEPHALON.
CC -!- SIMILARITY: Belongs to the GnRH family.
DR PIR; A23735; A23735.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Multigene family; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 90 PROGNADOLIBERIN III.
FT PEPTIDE 24 33 GONADOLIBERIN III.
FT PEPTIDE 27 82 GNRH-ASSOCIATED PEPTIDE III (POTENTIAL).
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
FT MOD_RES 33 33 (BY SIMILARITY).
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ SEQUENCE 90 AA; 10096 MW; B36362E924A53A4E CRC64;

Query Match 76.7%; Score 56; DB 1; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.067;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGVWLP 33

RESULT 26
GN3_ORYLA STANDARD; PRT; 90 AA.
AC Q9DD49; Q8J1Q3;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Prognadoliberin III precursor (Salmon-type gonadotropin-releasing
DE hormone) (sgnRH) [Contains: Gonadoliberin III (LH-RH III) (Luteinizing
DE hormone releasing hormone III) (Gonadotropin releasing hormone III)
DE (GNRH III) (Luliberin III); GNRH-associated peptide III].
OS Oryzias latipes (Medaka fish) (Japanese ricefish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Neolamproidei; Adrianchthyidae; Oryziinae; Oryzias.
OX NCBI_TaxID=8090;
RN [1]
RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC TISSUE=Brain;
RX MEDLINE=20462954; PubMed=11006121;
RA Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT "A novel form of gonadotropin-releasing hormone in the medaka,
RT Oryzias latipes."
RL Biochem. Biophys. Res. Commun. 276:298-303(2000).
RN [2]
RP SEQUENCE FROM N.A.

RC STRAIN=HNI, and Himedaka;
RX MEDLINE=22133319; PubMed=12137956;
RA Okubo K., Mitani H., Naruse K., Kondo M., Shima A., Tanaka M.,
RA Asakawa S., Shimizu N., Yoshiura Y., Aida K.;
RT "Structural characterization of GnRH loci in the medaka genome."
RL Gene 293:181-189(2002).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
CC similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Expressed in neuron cell bodies of the nucleus
CC olfactoretinalis.
CC -!- MISCELLANEOUS: Teleost species possess three paralogous GnRHs:
CC mdGNRH and cGNRH-II have been identified in teleosts; sGNRH has
CC no trapped ortholog and is thought to be a duplication of cGNRH-
CC II.
CC -!- SIMILARITY: Belongs to the GnRH family.
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CC
DR EMBL; AB041331; BAB16301.1; -
DR EMBL; AB041332; BAB16302.1; -
DR EMBL; AB041335; BAC06418.1; -
DR EMBL; AB074501; BAC06425.1; -
DR PIR; JC7395; JC7395.
DR GO; GO:0005576; Extracellular; ISS.
DR GO; GO:0005183; P:uteinizing hormone-releasing factor activity; ISS.
DR GO; GO:0007275; P:development; ISS.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
KW Multigene family; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 90 PROGNADOLIBERIN III.
FT PEPTIDE 24 33 GONADOLIBERIN III.
FT PEPTIDE 37 90 GNRH-ASSOCIATED PEPTIDE III.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP) (BY
FT SIMILARITY).
FT CONFLICT 17 17 V -> M (IN REF. 2; BAC06425).
SQ SEQUENCE 90 AA; 10176 MW; AE0B3DC9047475B9 CRC64;

Query Match 76.7%; Score 56; DB 1; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.067;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGVWLP 33

RESULT 27
GN3_PAGMA STANDARD; PRT; 90 AA.
AC P51921;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
DE (GNRH-III) (LH-RH III) (Luliberin III).
GN GNRH3.
OS Pagrus major (Red sea bream) (Chrysophrys major).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
OC Sparidae; Pagrus.

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OX NCBI_TaxID=143350;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Olfactory bulb;
RX MEDLINE=95154651; PubMed=7851723;
RA Okuzawa K., Ataki K., Tanaka H., Kagawa H., Hirose K.;
RT "Molecular cloning of a cDNA encoding the prepro-salmon gonadotropin-releasing hormone of the red seabream.";
RL Gen. Comp. Endocrinol. 96:234-242(1994).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC
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CC
CC EMBL; D26108; BAA05104.1; -.
DR PIR; I51095;
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 90 PROGONADOLIBERIN III.
FT PEPTIDE 24 33 GONADOLIBERIN III.
FT PEPTIDE 37 82 GnRH-ASSOCIATED PEPTIDE III (POTENTIAL).
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
FT MOD_RES 24 24 (BY SIMILARITY).
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ SEQUENCE 90 AA; 10070 MW; F84E5993868C2FED CRC64;

Query Match 76.7%; Score 56; DB 1; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.067;
Matches 7; Conservative 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYGP 10
DB :|||:|
DB 24 QHWSYGLWPG 33

RESULT 28
GON3_SPAU
ID GON3_SPAU STANDARD; PRT; 90 AA.
AC F51923;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III) (GnRH-III) (LH-RH III) (Luliberin III).
GN GnRH3.
OS Sparus aurata (Gilthead sea bream).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
OC Sparidae; Sparus.
OX NCBI_TaxID=8175;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RX MEDLINE=99061849; PubMed=9843645;
RA Holland M.C.H., Gothlif Y., Meiri I., King J.A., Okuzawa K., Elizur A., Zohar Y.;
RT "Levels of the native forms of GnRH in the pituitary of the gilthead seabream, Sparus aurata, at several characteristic stages of the gonadal cycle.";
RL Gen. Comp. Endocrinol. 112:394-405(1998).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.

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CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC
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CC
CC EMBL; U30311; AAA98845.1; -.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23 BY SIMILARITY.
FT CHAIN 24 90 PROGONADOLIBERIN III.
FT PEPTIDE 24 33 GONADOLIBERIN III.
FT PEPTIDE 37 82 GnRH-ASSOCIATED PEPTIDE III (POTENTIAL).
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
FT MOD_RES 24 24 (BY SIMILARITY).
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ SEQUENCE 90 AA; 10030 MW; FB4E47EB868C2FBD CRC64;

Query Match 76.7%; Score 56; DB 1; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.067;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYGP 10
DB :|||:|
DB 24 QHWSYGLWPG 33

RESULT 29
GON3_CARAU
ID GON3_CARAU STANDARD; PRT; 94 AA.
AC F51917;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III) (GnRH-III) (LH-RH III) (Luliberin III).
GN GnRH3.
OS Carassius auratus (Goldfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Carassius.
OX NCBI_TaxID=7957;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96276584; PubMed=8729938;
RA Lin X.-W., Peter R.E.;
RT "Expression of salmon gonadotropin-releasing hormone (GnRH) and chicken GnRH-II precursor messenger ribonucleic acids in the brain and ovary of goldfish.";
RL Gen. Comp. Endocrinol. 101:282-296(1996).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC
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CC
CC EMBL; U30301; AAC59888.1; -.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.

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DR PROSITE; PS00473; GNRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
FT SIGNAL; Pyrrolidone carboxylic acid.
FT CHAIN 1 23
FT PEPTIDE 24 33
FT PEPTIDE 24 33
FT PEPTIDE 37 94
FT MOD_RES 24 24
FT MOD_RES 33 33
FT MOD_RES 33 33
SQ SEQUENCE 94 AA; 10511 MW; 14405ED82ECD2BEB CRC64;
Query Match 76.7%; Score 56; DB 1; Length 94;
Best Local Similarity 70.0%; Pred. No. 0.07;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGNLPG 33
:||||:||||
RESULT 30
GON3_RUTRU STANDARD; PRT; 94 AA.
AC Q92106;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
DE (GNRH-III) (LH-RH III) (Luliberin III).
GN GNRH3.
OS Rutilus rutilus (Roach).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Rutilidae.
OX NCBI_TaxID=48668;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Olfactory bulb;
RX MEDLINE=98121986; PubMed=9460654;
RA Penington M.C., Williams M.A., Sumpter J.P., Rand-Weaver M.,
RA Hoole D., Arne C.;
RT "Isolation and characterisation of mRNA encoding the salmon- and
RT chicken- II type gonadotropin-releasing hormones in the teleost fish
RT Rutilus rutilus (Cyprinidae).";
RL J. Mol. Endocrinol. 19:337-346(1997).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
CC similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; U60667; AAB65821.1; -.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
FT SIGNAL; Pyrrolidone carboxylic acid
FT CHAIN 1 23
FT PEPTIDE 24 33
FT PEPTIDE 24 33
FT PEPTIDE 37 94
FT MOD_RES 24 24
FT MOD_RES 33 33
FT MOD_RES 33 33
SQ SEQUENCE 94 AA; 10511 MW; 14405ED82ECD2BEB CRC64;
Query Match 76.7%; Score 56; DB 1; Length 94;
Best Local Similarity 70.0%; Pred. No. 0.07;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGNLPG 33
:||||:||||
RESULT 31
GON3_PETMA STANDARD; PRT; 10 AA.
AC P30348;
DT 01-JUL-1993 (Rel. 26, Created)
DT 01-JUL-1993 (Rel. 26, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin III (Gonadotropin-releasing hormone III) (GNRH-III)
DE (Luliberin III).
OS Petromyzon marinus (Sea lamprey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC Petromyzontiformes; Petromyzontidae; Petromyzon.
OX NCBI_TaxID=7757;
RN [1]
RP SEQUENCE.
RC TISSUE=Brain;
RX MEDLINE=93178316; PubMed=8440174;
RA Sower S.A., Chiang Y.-C., Lovas S., Conlon J.M.;
RT "Primary structure and biological activity of a third gonadotropin-
RT releasing hormone from lamprey brain.";
RL Endocrinology 132:1125-1131(1993).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC the secretion of both luteinizing and follicle-stimulating
CC hormones.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Hormone; Amidation; Hypothalamus; Pyrrolidone carboxylic acid.
FT MOD_RES 1 1
FT MOD_RES 10 10
FT MOD_RES 10 10
SQ SEQUENCE 10 AA; 1277 MW; 284B36237AA1F5A3 CRC64;
Query Match 74.0%; Score 54; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.016;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 1 QHWSHGWYPG 10
:||||:||||
RESULT 32
GON1_CLUPA STANDARD; PRT; 10 AA.
ID GON1_CLUPA
AC P81749;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin I (Gonadotropin-releasing hormone I) (GNRH-I) (LH-RH)
DE (Luliberin I).
GN GNRH1.
OS Clupea pallasii (Pacific herring).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Clupeomorpha; Clupeidae;
OC Clupea.
OX NCBI_TaxID=30724;
RN [1]
RP SEQUENCE, AND FUNCTION.
RC TISSUE=Brain, and Pituitary;
RX MEDLINE=20114351; PubMed=10650929;

SQ SEQUENCE 94 AA; 10683 MW; CB1ED2215AA4DC4D CRC64;
Query Match 76.7%; Score 56; DB 1; Length 94;
Best Local Similarity 70.0%; Pred. No. 0.07;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGNLPG 33
:||||:||||
RESULT 31
GON3_PETMA STANDARD; PRT; 10 AA.
AC P30348;
DT 01-JUL-1993 (Rel. 26, Created)
DT 01-JUL-1993 (Rel. 26, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin III (Gonadotropin-releasing hormone III) (GNRH-III)
DE (Luliberin III).
OS Petromyzon marinus (Sea lamprey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Hyperoartia;
OC Petromyzontiformes; Petromyzontidae; Petromyzon.
OX NCBI_TaxID=7757;
RN [1]
RP SEQUENCE.
RC TISSUE=Brain;
RX MEDLINE=93178316; PubMed=8440174;
RA Sower S.A., Chiang Y.-C., Lovas S., Conlon J.M.;
RT "Primary structure and biological activity of a third gonadotropin-
RT releasing hormone from lamprey brain.";
RL Endocrinology 132:1125-1131(1993).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC the secretion of both luteinizing and follicle-stimulating
CC hormones.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Hormone; Amidation; Hypothalamus; Pyrrolidone carboxylic acid.
FT MOD_RES 1 1
FT MOD_RES 10 10
FT MOD_RES 10 10
SQ SEQUENCE 10 AA; 1277 MW; 284B36237AA1F5A3 CRC64;
Query Match 74.0%; Score 54; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.016;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 1 QHWSHGWYPG 10
:||||:||||
RESULT 32
GON1_CLUPA STANDARD; PRT; 10 AA.
ID GON1_CLUPA
AC P81749;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin I (Gonadotropin-releasing hormone I) (GNRH-I) (LH-RH)
DE (Luliberin I).
GN GNRH1.
OS Clupea pallasii (Pacific herring).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Clupeomorpha; Clupeidae;
OC Clupea.
OX NCBI_TaxID=30724;
RN [1]
RP SEQUENCE, AND FUNCTION.
RC TISSUE=Brain, and Pituitary;
RX MEDLINE=20114351; PubMed=10650929;

DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Pyrrolidone carboxylic acid.
 FT SIGNAL 21
 FT CHAIN 1 21
 FT FT 22 80
 FT FT 23 31
 FT FT 24 30
 FT FT 25 30
 FT FT 26 31
 FT FT 27 30
 FT FT 28 22
 FT FT 29 31
 FT FT 30 31
 FT FT 31 31
 FT FT 32 47
 FT FT 33 47
 FT FT 34 60
 FT FT 35 60
 SQ SEQUENCE 80 AA; 8893 MW; 0BE5EEEF4FF861A CRC64;

 Query Match 65.8%; Score 48; DB 1; Length 80;
 Best local Similarity 70.0%; Pred No. 0.87;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

 QY 1 EHWSHGWYFG 10
 :|||||
 DB 22 QHWSHGLNPG 31

 RESULT 34
 GONS RANDY STANDARD; PRT; 90 AA.
 AC Q9IAU2;
 DT 16-OCT-2001 (Rel. 40, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Trp-8 gonadoliberin precursor (Trp-8 gonadotropin-releasing hormone)
 DE [Trp8]GnRH [LH-RH] (Luliberin).
 OS Rana dybowskii (Dybowski's frog) (Korean brown frog).
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OS Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae; Rana.
 OC NCBI_TaxID=71582;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=20477595; PubMed=11026571;
 RA Yoo M.S., Kang H.M., Choi H.S., Kim J.W., Troskie B.E., Millar R.P.,
 RA Kwon H.B.;
 RA "Molecular cloning, distribution and pharmacological characterization
 RA of a novel gonadotropin-releasing hormone (Trp8 GnRH) in frog brain.";
 RL Mol. Cell. Endocrinol. 164:197-204(2000).
 CC -1- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC CC -1- TISSUE SPECIFICITY: Expressed in forebrain but not in testis,
 CC ovary, kidney and liver.
 CC -1- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; AF139911; AAF44343.1; -
 CC InterPro; IPR002012; GnRH.
 CC InterPro; IPR004079; GonadoliberinI.
 CC Pfam; PF00446; GnRH; 1.
 CC PRINTS; PR01541; GONADOLIBERNI.
 CC PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 KW Pyrrolidone carboxylic acid.
 FT SIGNAL 1 24
 FT FT 25 34
 FT FT 26 34
 FT FT 27 34
 FT FT 28 36
 FT FT 29 25
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FT SEQUENCE 90 AA, 10368 MW, C3D573E78B52ABFA CRC64;
SQ SEQUENCE 90 AA, 10368 MW, C3D573E78B52ABFA CRC64;

Query Match 63.0%; Score 46; DB 1; Length 90;
Best Local Similarity 60.0%; Pred. No. 1.9;
Matches 6; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Oy 1 EHWSHGWYPG 10
Db 25 QHWSYGLWPG 34

RESULT 35
DNE2 ADEG1 STANDARD; PRT; 441 AA.
AC Q64759;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Early E2A DNA-binding protein.
GN DBP.
OS Avian adenovirus gall (strain Phelps) (Fowl adenovirus 1) (CELO).
OC Viruses; dsDNA viruses, no RNA stage; Adenoviridae; Aviadenovirus.
OX NCBI_TaxID=10553;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96186720; PubMed=9627769;
RA Chiocca S., Kurzbaue R., Schaffner G., Baker A., Mautner V.,
RA Corten M.,
RT "The complete DNA sequence and genomic organization of the avian
RT adenovirus CELO."
RL J. Virol. 70:2939-2949(1996).
CC -!- FUNCTION: Binds cooperatively single-stranded DNA in a sequence-
CC independent manner. Involved in DNA-replication, regulation of
CC mRNA formation, and host-range specificity. Zinc is required for
CC DNA binding (by similarity).
CC -!- SUBCELLULAR LOCATION: NUCLEAR. ACCUMULATES IN INFECTED CELLS.
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CC -----
DR EMBL; J46933; AAC54914.1; -
DR HSP; P03265; IADU.
DR InterPro; IPR003176; Vir DNA-binding.
DR InterPro; IPR005376; Vir DNA_Zn_bind.
DR Pfam; PF02236; Vir DNA-binding_1.
DR Pfam; PF03728; Vir DNA_Zn_bind_2.
DR Early protein; DNA-binding; Zinc-finger; Phosphorylation.
SQ SEQUENCE 441 AA; 49331 MW; 5E78E8684F50429F CRC64;

Query Match 61.6%; Score 45; DB 1; Length 441;
Best Local Similarity 71.4%; Pred. No. 12;
Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Oy 3 WSHGWYP 9
Db 176 WRHGWFP 182

RESULT 36
GONI ALLMI STANDARD; PRT; 10 AA.
ID GONI_ALLMI STANDARD; PRT; 10 AA.
AC P37041; P20407;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin I (Gonadotropin-releasing hormone I) (LH-RH I)
DE (Luliberin I).

Query Match 58.9%; Score 43; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.62;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Oy 1 EHWSHGWYPG 10
Db 1 QHWSYGLWPG 10

RESULT 37
GONI_CHICK STANDARD; PRT; 92 AA.
ID GONI_CHICK STANDARD; PRT; 92 AA.
AC P37042; P20407;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-JUN-1994 (Rel. 29, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Progonadoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
DE hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I].
DE
OS Gallus gallus (Chicken)
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=White leghorn;
RX MEDLINE=94059355; PubMed=7902095;
RA Dunn I.C., Chen Y., Hook C., Sharp P.J., Sang H.M.;
RT "Characterization of the chicken pregonadotropin-releasing
RT hormone-I gene."
RL J. Mol. Endocrinol. 11:19-29(1993).
RN [2]
RP SEQUENCE OF 24-33.
RC TISSUE=Hypothalamus;
RX MEDLINE=82265778; PubMed=7050119;
RA King J.A., Millar R.P.;
RT "Structure of chicken hypothalamic luteinizing hormone-releasing
RT hormone. II. Isolation and characterization."
RL J. Biol. Chem. 257:10729-10732(1982).
RN [3]
RP SEQUENCE OF 24-33.
RC TISSUE=Hypothalamus;
RA King J.A., Millar R.P.;
RT "Structure of avian hypothalamic gonadotropin-releasing hormone."
RL S. Afr. J. Sci. 78:124-125(1982).
RN [4]
RP SYNTHESIS OF 24-33.

```

```

OS Alligator mississippiensis (American alligator).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Crocodylidae; Alligatorinae; Alligator.
OX NCBI_TaxID=8496;
RN [1]
RP SEQUENCE.
RC TISSUE=Brain;
RX MEDLINE=91352338; PubMed=1862082;
RA Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M.,
RA Lance V., Swanson P., Rivier J.E., Sherwood N.M.;
RT "Primary structure of two forms of gonadotropin-releasing hormone
RT from brains of the American alligator (Alligator mississippiensis)."
RL Regul. Pept. 33:105-116(1991).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
DR PIR; A60066; RHAQ1.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Hormone; Amidation; Hypothalamus; Pyroglutamate carboxylic acid.
FT MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 10 10 AMIDATION.
SQ SEQUENCE 10 AA; 1172 MW; 284B23D7286B45A3 CRC64;

Query Match 58.9%; Score 43; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.62;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Oy 1 EHWSHGWYPG 10
Db 1 QHWSYGLWPG 10

RESULT 37
GONI_CHICK STANDARD; PRT; 92 AA.
ID GONI_CHICK STANDARD; PRT; 92 AA.
AC P37042; P20407;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-JUN-1994 (Rel. 29, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Progonadoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
DE hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I].
DE
OS Gallus gallus (Chicken)
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=White leghorn;
RX MEDLINE=94059355; PubMed=7902095;
RA Dunn I.C., Chen Y., Hook C., Sharp P.J., Sang H.M.;
RT "Characterization of the chicken pregonadotropin-releasing
RT hormone-I gene."
RL J. Mol. Endocrinol. 11:19-29(1993).
RN [2]
RP SEQUENCE OF 24-33.
RC TISSUE=Hypothalamus;
RX MEDLINE=82265778; PubMed=7050119;
RA King J.A., Millar R.P.;
RT "Structure of chicken hypothalamic luteinizing hormone-releasing
RT hormone. II. Isolation and characterization."
RL J. Biol. Chem. 257:10729-10732(1982).
RN [3]
RP SEQUENCE OF 24-33.
RC TISSUE=Hypothalamus;
RA King J.A., Millar R.P.;
RT "Structure of avian hypothalamic gonadotropin-releasing hormone."
RL S. Afr. J. Sci. 78:124-125(1982).
RN [4]
RP SYNTHESIS OF 24-33.

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RX MEDLINE=82265777; PubMed=7050118;
RA King J.A., Millar R.P.;
RT "Structure of chicken hypothalamic luteinizing hormone-releasing
RT hormone. I. Structural determination on partially purified
RT material.";
RL J. Biol. Chem. 257:10722-10728(1982).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC -----
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CC -----
DR EMBL; X69491; CAA49246.1; -
DR PIR; I50644; I50644.
DR GO; GO:0005576; C:extracellular; IDA.
DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; IDA.
DR GO; GO:0007275; P:development; IDA.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; Gonadolibertin.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBERN.
DR PROSITE; PS00473; GnRH; 1.
DR Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyroglutamate carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 92 PROGONADOLIBERIN I.
FT PEPTIDE 24 33 GONADOLIBERIN I.
FT PEPTIDE 37 92 GnRH-ASSOCIATED PEPTIDE I.
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ SEQUENCE 92 AA; 10206 MW; 61AE7EBAF508B6A CRC64;

Query Match 58.9%; Score 43; DB 1; Length 92;
Best Local Similarity 60.0%; Pred. No. 5.3;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 24 QHWSYGLQPG 33

RESULT 38
GONL_SHEEP STANDARD; PRT; 61 AA.
AC Q28588;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Progadoliberin I precursor [Contains: Gonadolibertin I (LH-RH I)
DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
DE hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I]
DE (Fragment).
DE GNRH1 OR GnRH OR LHRH.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE OF 12-61 FROM N.A.
RC STRAIN=Western range; TISSUE=Hypothalamus;
RA Rodriguez R.E., Wise M.E.;
RL Submitted (OCT-1993) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE OF 1-10.
RX MEDLINE=72094314; PubMed=4550508;
RA Burgus R., Butcher M., Amoss M., Ling N., Monahan M., Rivier J.,

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RA Fellows R., Blackwell R., Vale W., Guillemin R.;
RT "Primary structure of the ovine hypothalamic luteinizing hormone-
RT releasing factor (LRF) (LH-hypothalamus-LRF-gas chromatography-mass
RT spectrometry-decapeptide-Edman degradation).";
RL Proc. Natl. Acad. Sci. U.S.A. 69:278-282(1972).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC the secretion of both luteinizing and follicle-stimulating
CC hormones.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; U02517; AAA03433.1; -
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; Gonadolibertin.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBERN.
DR PROSITE; PS00473; GnRH; 1.
DR Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Placenta; Pyroglutamate carboxylic acid.
FT NON_TER 1 1
FT CHAIN 1 >61 PROGONADOLIBERIN I.
FT PEPTIDE 1 10 GONADOLIBERIN I.
FT PEPTIDE 14 >61 GnRH-ASSOCIATED PEPTIDE I.
FT ACT_SITE 3 3 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT ACTIVITY.
FT MOD_RES 1 1 PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 10 10 AMIDATION (G-11 PROVIDE AMIDE GROUP).
FT NON_TER 61 61
SQ SEQUENCE 61 AA; 6828 MW; 63962A1AE319B8F0 CRC64;

Query Match 57.5%; Score 42; DB 1; Length 61;
Best Local Similarity 60.0%; Pred. No. 5;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 QHWSYGLRPG 10

RESULT 39
GONL_MESAU STANDARD; PRT; 63 AA.
AC Q09163;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Progadoliberin I precursor [Contains: Gonadolibertin I (LH-RH I)
DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
DE hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I]
DE (Fragment).
DE GNRH1 OR GnRH OR LHRH.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Mesocricetus.
OX NCBI_TaxID=10036;
RN [1]
RP SEQUENCE FROM N.A.
RA Jansen H.T., Stevens P.J., Zeitler P., Lehman M.N.;
RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC the secretion of both luteinizing and follicle-stimulating
CC hormones.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.

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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL; U91938; AAB51302.1; -
 DR InterPro; IPR002012; GnRH.
 DR InterPro; IPR004079; GonadoliberinI.
 DR Pfam; PF00446; GnRH; 1.
 DR PRINTS; PR01541; GONADOLIBERNI.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Placenta; Pyroglutamate carboxylic acid.
 FT NON_TER 1 1
 FT CHAIN 1 >63 PROGONADOLIBERIN I.
 FT PEPTIDE 1 10 GONADOLIBERIN I.
 FT PEPTIDE 14 >63 GnRH-ASSOCIATED PEPTIDE I (BY
 FT ACT_SITE 3 3 SIMILARITY).
 FT MOD_RES 1 1 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
 FT MOD_RES 10 10 ACTIVITY (BY SIMILARITY).
 FT MOD_RES 10 10 PYROGLUTAMATE CARBOXYLIC ACID (BY
 FT NON_TER 63 63 AMIDATION (G-11 PROVIDE AMIDE GROUP) (BY
 FT SEQUENCE 63 AA; 7370 MW; FC9499567677180 CRC64;
 Query Match 57.5%; Score 42; DB 1; Length 63;
 Best Local Similarity 60.0%; Pred. No. 5.2;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 1 EHWGSHGWYPG 10
 DB 1 QHWSYGLRPG 10
 RESULT 40
 GONI_MACVU STANDARD; PRT; 67 AA.
 AC P55247;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Progadoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
 DE (Luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
 DE hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I]
 DE (Fragment).
 GN GnRH1 OR GnRH OR LHRH.
 OS Macaca mulatta (Rhesus macaque).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 OC Cercopithecinae; Macaca.
 OX NCBI_TaxID=9544;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Hypothalamus;
 RX MEDLINE=95124501; PubMed=7545971;
 RA Ma Y.J., Costa M.E., Ojeda S.R.;
 RT "Developmental expression of the genes encoding transforming growth
 RT factor alpha and its receptor in the hypothalamus of female rhesus
 RT macaques.";
 RL Neuroendocrinology 60:346-359 (1994).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL; S75918; AAB33096.1; -
 DR InterPro; IPR002012; GnRH.
 DR InterPro; IPR004079; GonadoliberinI.
 DR Pfam; PF00446; GnRH; 1.
 DR PRINTS; PR01541; GONADOLIBERNI.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Pyroglutamate carboxylic acid.
 FT NON_TER 1 1
 FT SIGNAL <1 5 BY SIMILARITY.
 FT CHAIN 6 >67 PROGONADOLIBERIN I.
 FT PEPTIDE 6 15 GONADOLIBERIN I.
 FT PEPTIDE 19 >67 GnRH-ASSOCIATED PEPTIDE I.
 FT ACT_SITE 8 8 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
 FT MOD_RES 6 6 ACTIVITY (BY SIMILARITY).
 FT MOD_RES 15 15 PYROGLUTAMATE CARBOXYLIC ACID (BY
 FT MOD_RES 15 15 SIMILARITY).
 FT NON_TER 67 67 AMIDATION (G-16 PROVIDE AMIDE GROUP) (BY
 FT SEQUENCE 67 AA; 7573 MW; 505394DAA261A3F2 CRC64;
 Query Match 57.5%; Score 42; DB 1; Length 67;
 Best Local Similarity 60.0%; Pred. No. 5.5;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 1 EHWGSHGWYPG 10
 DB 6 QHWSYGLRPG 15
 RESULT 41
 GONI_XENLA STANDARD; PRT; 89 AA.
 AC P45656;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberin I precursor (Gonadotropin-releasing hormone I) (GnRH-I)
 DE (LH-RH) (Luliberin I).
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae;
 OC Xenopodinae; Xenopus.
 OX NCBI_TaxID=8355;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Forebrain;
 RX MEDLINE=94185563; PubMed=8137750;
 RA Hayes W.P., Wray S., Battey J.F.;
 RT "The frog gonadotropin-releasing hormone-I (GnRH-I) gene has a
 RT mammalian-like expression pattern and conserved domains in
 RT GnRH-associated peptide, but brain onset is delayed until
 RT metamorphosis.";
 RL Endocrinology 134:1835-1844 (1994).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
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CC -----
DR EMBL; L28040; AAA49728.1; -.
DR PIR; I51423; I51423.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; GonadoliberinI.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBERIN I.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyroglutamate carboxylic acid.
FT SIGNAL 1 23 PROGNADOLIBERIN I.
FT CHAIN 24 89 GONADOLIBERIN I.
FT PEPTIDE 24 33 GONADOTROPIN-RELEASING HORMONE ASSOCIATED
FT PEPTIDE 37 89 PEPTIDE.
FT PEPTIDE 37 85 GnRH-ASSOCIATED PEPTIDE I (GAP).
FT MOD_RES 24 24 PYROGLUTAMATE CARBOXYLIC ACID.
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
SQ SEQUENCE 89 AA; 10246 MW; 6F4F36FBAE0D4284 CRC64;

Query Match 57.5%; Score 42; DB 1; Length 89;
Best Local Similarity 60.0%; Pred. No. 7.2;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

OY 1 EHWSHGWYPG 10
DB 24 QHWSYGLRPG 33

RESULT 42
GONI_MOUSE STANDARD; PRT; 90 AA.
ID GONI_MOUSE
AC P13562;
DT 01-JAN-1990 (Rel. 13, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Progonadoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
DE hormone I) (GnRH I) (Luliberin I); Prolactin release-inhibiting factor
DE I].
GN GnRH1 OR GnRH.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=87069928; PubMed=3024317;
RA Mason A.J., Haylick J.S., Zoeller R.T., Young W.S. III,
RA Phillips H.S., Nikolic K., Seeburg P.H.;
RT "A deletion truncating the gonadotropin-releasing hormone gene is
RT responsible for hypogonadism in the hpg mouse."
RL Science 234:1366-1371(1986).
CC -1- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC the secretion of both luteinizing and follicle-stimulating
CC hormones.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: Belongs to the GnRH family.
CC -----
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CC -----
DR EMBL; M14872; AAA37717.1; -.
DR PIR; A45758; REMSG.
DR MGD; MGI:95789; GnRH.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; GonadoliberinI.

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DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBERIN I.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Placenta; Signal; Pyroglutamate carboxylic acid.
FT SIGNAL 1 21 PROGNADOLIBERIN I.
FT CHAIN 22 90 GONADOLIBERIN I.
FT PEPTIDE 22 31 PROLACTIN RELEASE-INHIBITING FACTOR I.
FT PEPTIDE 35 90 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
FT ACT_SITE 24 24 ACTIVITY.
FT MOD_RES 22 22 PYROGLUTAMATE CARBOXYLIC ACID.
FT MOD_RES 31 31 AMIDATION (G-32 PROVIDE AMIDE GROUP).
SQ SEQUENCE 90 AA; 10337 MW; 1C076FA4826E4D9 CRC64;

Query Match 57.5%; Score 42; DB 1; Length 90;
Best Local Similarity 60.0%; Pred. No. 7.3;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

OY 1 EHWSHGWYPG 10
DB 22 QHWSYGLRPG 31

RESULT 43
GONI_RANCA STANDARD; PRT; 90 AA.
ID GONI_RANCA
AC Q90Y63;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Progonadoliberin I precursor [Contains: Gonadoliberin I (LHRH I)
DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
DE hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I (GAP)].
GN GnRH1 OR GnRH.
OS Rana catesbeiana (Bull frog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Rana.
OX NCBI_TaxID=8400;
RN [1]
RP SEQUENCE FROM N.A.; TISSUE SPECIFICITY, AND DEVELOPMENTAL STAGE.
RX TISSUE=Forebrain;
RX MEDLINE=21102951; PubMed=11170016;
RA Wang L., Yoo M.S., Kang H.M., Im W.B., Choi H.S., Bogerd J.,
RA Kwon H.B.;
RT "Cloning and characterization of cDNAs encoding the GnRH1 and GnRH2
RT precursors from bullfrog (Rana catesbeiana).";
RL J. Exp. Zool. 289:190-201(2001).
CC -1- FUNCTION: Stimulates the secretion of gonadotropins (By
CC similarity).
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: Forebrain.
CC -1- DEVELOPMENTAL STAGE: Expressed at significantly higher levels
CC during post-breeding. Not expressed in pituitary.
CC -1- SIMILARITY: Belongs to the GnRH family.
CC -----
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CC -----
DR EMBL; AF188754; AAL05972.1; -.
DR GO; GO:0005576; C:extracellular; NAS.
DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; NAS.
DR GO; GO:0009755; P:hormone mediated signaling; NAS.
DR GO; GO:0000003; P:reproduction; NAS.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; GonadoliberinI.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBERIN I.

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Tan L., Rousseau P.;
 "The chemical identity of the immunoreactive LHRH-like peptide
 RT biosynthesized in the human placenta";
 RL Biochem. Biophys. Res. Commun. 109:1061-1071(1982).
 [5]
 RP VARIANT SER-16;
 RX MEDLINE=99318093; PubMed=10391209;
 RA Carilli M., Altschuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
 RA Shaw N., Lane C.P., Lim E.P., Kalyanaran N., Nemes J., Ziaugra L.,
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
 RA Lander E.S.;
 RT "Characterization of single-nucleotide polymorphisms in coding regions
 of human genes";
 RL Nat. Genet. 22:231-238(1999).
 [6]
 RP ERRATUM.
 RA Carilli M., Altschuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
 RA Shaw N., Lane C.P., Lim E.P., Kalyanaran N., Nemes J., Ziaugra L.,
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
 RA Lander E.S.;
 RL Nat. Genet. 23:373-373(1999).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- PHARMACEUTICAL: Available under the names Factrel (Ayerst Labs),
 CC Lutrepulse or Lutrelief (Ferring Pharmaceuticals) and Relisorm
 CC (Serono).
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; X01059; CAA25526.1; -;
 CC EMBL; M12578; AAA35916.1; -;
 CC EMBL; X15215; CAA33285.1; -;
 CC PIR; S05308; RHUG.
 CC Genew; HGNC:4419; GNRH1.
 CC MIM; 152760; -;
 CC GO; GO:0003625; C:soluble fraction; TAS.
 CC GO; GO:0005183; F:lutinizing hormone-releasing factor activity; TAS.
 CC GO; GO:0007267; P:cell-cell signaling; TAS.
 CC GO; GO:0007275; P:development; TAS.
 CC GO; GO:0008285; P:negative regulation of cell proliferation; TAS.
 CC GO; GO:0007165; P:signal transduction; TAS.
 CC InterPro; IPR002012; GNRH.
 CC Gonadoliberein1.
 CC Pfam; PF00446; GNRH; 1.
 CC PRINTS; PR01541; GONADOLIBERN1.
 CC PROSITE; PS00473; GNRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Placenta; Pharmaceutical; Signal; Polymorphism;
 CC Pyrolidone carboxylic acid.
 CC SIGNAL 1 23
 CC PROGONADOLIBERIN I.
 CC CHAIN 24 32
 CC PEPTIDE 24 33
 CC PEPTIDE 37 92
 CC ACT_SITE 26 26
 CC ACTIVITY
 CC MOD_RES 24 24
 CC MOD_RES 33 33
 CC VARIANT 16 16
 CC /FTID=VAR 013943.
 CC
 CC SEQUENCE 92 AA; 10380 MW; 30A72221B076FA79 CRC64;
 Query Match 57.5%; Score 42; DB 1; Length 92;
 Best Local Similarity 60.08; Pred. No. 7.4;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
 Db 24 QHWSYGLRPG 33
 RESULT 46
 ID_GON1 RAT STANDARD; PRT; 92 AA.
 AC P07430;
 DT 01-APR-1988 (Rel. 07, Created)
 DT 01-APR-1988 (Rel. 07, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Progonaoliberin I precursor [Contains: Gonadoliberein I (LH-RH I)
 DE (Luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
 DE hormone I) (GnRH I) (Luliberin I); Prolactin release-inhibiting factor
 DE I].
 OS GNRH1 OR GNRH.
 GN Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86094338; PubMed=2867548;
 RA Adelman J.P.; Mason A.J.; Hayflick J.S.; Seeburg P.H.;
 RT "Isolation of the gene and hypothalamic cDNA for the common precursor
 RT of gonadotropin-releasing hormone and prolactin release-inhibiting
 RT factor in human and rat";
 RL Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).
 [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=8384661; PubMed=2476669;
 RA Bond C.T.; Hayflick J.S.; Seeburg P.H.; Adelman J.P.;
 RT "The rat gonadotropin-releasing hormone: SH locus: structure and
 RT hypothalamic expression";
 RL Mol. Endocrinol. 3:1257-1262(1989).
 [3]
 RP SEQUENCE FROM N.A.
 RX TISSUE=Thymus;
 RA MEDLINE=93105480; PubMed=1468115;
 RA Maier C.C.; Marchetti B.; Leboeuf R.D.; Bialock J.E.;
 RT "Thymocytes express a mRNA that is identical to hypothalamic
 RT luteinizing hormone-releasing hormone mRNA";
 RL Cell. Mol. Neurobiol. 12:447-454(1992).
 [4]
 RP SEQUENCE OF 1-47 FROM N.A.
 RX TISSUE=Heart;
 RA MEDLINE=87149087; PubMed=3547652;
 RA Adelman J.P.; Bond C.T.; Douglass J.; Herbert E.;
 RT "Two mammalian genes transcribed from opposite strands of the same
 RT DNA locus";
 RL Science 235:1514-1517(1987).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Central nervous system.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; S50870; AAB24572.1; -;
 CC EMBL; M12579; AAA4263.1; -;
 CC EMBL; M31670; AAA4264.1; -;
 CC EMBL; M15527; AAA42141.1; ALT_SEQ.
 CC EMBL; M15529; AAA42139.1; -;

DR EMBL; M15528; -: NOT_ANNOTATED_CDS.
 DR PIR; A40147; RHRTG.
 DR InterPro; IPR002012; GnRH.
 DR InterPro; IPR004079; Gonadoliberin I.
 DR Pfam; PF00446; GnRH; 1.
 DR PRINTS; PR01541; GONADOLIBERNI.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Placenta; Signal; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 23
 FT CHAIN 24 92
 FT PEPTIDE 24 33
 FT PEPTIDE 37 92
 FT ACT_SITE 26 26
 FT ACT_SITE 26 26
 FT MOD_RES 24 24
 FT MOD_RES 33 33
 FT MOD_RES 33 33
 SQ SEQUENCE 92 AA; 10500 MW; 494BSC64DABA3EB3 CRC64;
 Query Match 57.5%; Score 42; DB 1; Length 92;
 Best Local Similarity 60.0%; Pred. No. 7.4;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 Qy 1 EHWSHGWYPG 10
 Db 24 QHWSYGLRPG 33
 RESULT 47
 GONI_TUPGB STANDARD; PRT; 92 AA.
 AC Q95335;
 DT 15-DEC-1998 (Rel. 37, Created)
 DT 15-DEC-1998 (Rel. 37, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Progonadoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
 DE (Luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
 DE hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I].
 GN GnRH1 OR GnRH.
 OS Tupia glis belangeri (Common tree shrew).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Scandentia; Tupaiidae; Tupia.
 OX NCBI_TaxID=37344;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=97079639; PubMed=8921350;
 RA Kasten T.L., White S.A., Norton T.T., Bond C.T., Adelman J.P.,
 RA Fernald R.D.
 RT "Characterization of two new preproGnRH mRNAs in the tree shrew:
 RT first direct evidence for mesencephalic GnRH gene expression in a
 RT placental mammal."
 RL Gen. Comp. Endocrinol. 104:7-19(1996).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC -----
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 CC or send an email to license@sib-sib.ch).
 CC -----
 DR EMBL; U63326; AAB16837.1; -;
 DR InterPro; IPR002012; GnRH.
 DR InterPro; IPR004079; Gonadoliberin I.
 DR Pfam; PF00446; GnRH; 1.
 DR PRINTS; PR01541; GONADOLIBERNI.
 DR PROSITE; PS00473; GnRH; 1.

KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Placenta; Signal; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 23
 FT CHAIN 24 92
 FT PEPTIDE 24 33
 FT PEPTIDE 37 92
 FT ACT_SITE 26 26
 FT ACT_SITE 26 26
 FT MOD_RES 24 24
 FT MOD_RES 33 33
 FT MOD_RES 33 33
 SQ SEQUENCE 92 AA; 10197 MW; 4FDBF2C58CF5F63B CRC64;
 Query Match 57.5%; Score 42; DB 1; Length 92;
 Best Local Similarity 60.0%; Pred. No. 7.4;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 Qy 1 EHWSHGWYPG 10
 Db 24 QHWSYGLRPG 33
 RESULT 48
 GONI_HAPBU STANDARD; PRT; 94 AA.
 AC P51918; O93387;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 30-MAY-2000 (Rel. 39, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Progonadoliberin I precursor [Contains: Gonadoliberin I (Luteinizing
 DE hormone releasing hormone I) (Gonadotropin-releasing hormone I)
 DE (GnRH-I) (LH-RH I) (Luliberin I); GnRH-associated peptide I].
 GN GnRH1.
 OS Haplochromis burtoni (Burton's mouthbrooder).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Perciformes; Labroidae;
 OC Cichlidae; Astototilapia.
 OX NCBI_TaxID=8153;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95396797; PubMed=7667296;
 RA White S.A., Kasten T.L., Bond C.T., Adelman J.P., Fernald R.D.;
 RA "Three gonadotropin-releasing hormone genes in one organism suggest
 RT novel roles for an ancient peptide."
 RL Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=99061842; PubMed=9843638;
 RA White R.B., Fernald R.D.;
 RA "Ontogeny of gonadotropin-releasing hormone (GnRH) gene expression
 RT reveals a distinct origin for GnRH-containing neurons in the
 RT midbrain."
 RL Gen. Comp. Endocrinol. 112:322-329(1998).
 RN [3]
 RP SEQUENCE OF 23-32, AND MASS SPECTROMETRY.
 RC TISSUE=Pituitary;
 RX MEDLINE=95372591; PubMed=7644702;
 RA Powell J.F.F., Fischer W.H., Park M., Craig A.G., Rivier J.E.,
 RA White S.A., Francis R.C., Fernald R.D., Licht P., Warby C.,
 RA Sherwood N.M.;
 RT "Primary structure of solitary form of gonadotropin-releasing hormone
 RT (GnRH) in cichlid pituitary; three forms of GnRH in brain of cichlid
 RT and pumpkinseed fish."
 RL Regul. Pept. 57:43-53(1995).
 CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS. MAY BE
 CC RESPONSIBLE FOR THE REGULATION OF THE HYPOTHALAMIC-PITUITARY-
 CC GONADAL AXIS.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: SYNTHESIZED IN PREOPTIC NEURONS AND IS
 CC TRANSPORTED TO THE PITUITARY IN THE PREOPTIC-HYPOPHYSAL AXONS.
 CC -!- MASS SPECTROMETRY: MW=1113.9; METHOD=MALDI; RANGE=23-32.

CC -!- SIMILARITY: Belongs to the GnRH family.
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 CC -----
 DR EMBL: U31865; AAC59691.1; -.
 DR EMBL: AF076961; AAC27115.1; -.
 DR PIR: I50739; I50739.
 DR GO: GO:0005576; C:extracellular; NAS.
 DR GO: GO:0005183; F:luteinizing hormone-releasing factor activity; NAS.
 DR GO: GO:0007275; P:development; IDA.
 DR InterPro: IPR002012; GnRH.
 DR InterPro: IPR004079; GonadoliberinI.
 DR Pfam: PF00446; GnRH; 1.
 DR PRINTS: PR01541; GONADOLIBERNI.
 DR PROSITE: PS00473; GnRH; 1.
 DR Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Multigene family; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 22
 FT CHAIN 23 94 PROGONADOLIBERIN I.
 FT PEPTIDE 23 32 GONADOLIBERIN I.
 FT PEPTIDE 36 94 GnRH-ASSOCIATED PEPTIDE I (POTENTIAL).
 FT MOD_RES 23 23 PYRROLIDONE CARBOXYLIC ACID.
 FT MOD_RES 32 32 AMIDATION (G-33 PROVIDE AMIDE GROUP).
 FT CONFLICT 86 94 ENGHRTFKK -> KMDTGHSENERFL (IN REF. 1).
 FT SEQUENCE 94 AA; 10382 MW; B57DBA8333278D7 CRC64;
 SQ
 Query Match 57.5%; Score 42; DB 1; Length 94;
 Best Local Similarity 60.0%; Pred. No. 7.6; Indels 0; Gaps 0;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 Db :|||:|
 23 QHWSYGLSPG 32
 RESULT 49
 GONI MORSA
 ID -GONI MORSA STANDARD; PRT; 95 AA.
 AC Q73812;
 DT 16-OCT-2001 (Rel. 40, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberin I precursor (Gonadotropin-releasing hormone I) (GnRH-I)
 DE (LH-RH I) (Luliberin I).
 GN GnRH.
 OS Morone saxatilis (Striped bass).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
 OC Moronidae; Morone.
 OC NCBI_TaxID=34816;
 CX [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=99061809; PubMed=9845669;
 RA Chow M.M., Kight K.E., Gotthelf Y., Alok D., Stubblefield J., Zohar Y.;
 RT "Multiple GnRHs present in a teleost species are encoded by separate
 RT genes: analysis of the sbGnRH and cGnRH-II genes from the striped
 RT bass, Morone saxatilis.";
 RL J. Mol. Endocrinol. 21:277-289(1998).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
 CC similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC -----
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 CC -----
 DR EMBL: AF056314; RAD03817.1; -.
 DR InterPro: IPR002012; GnRH.
 DR InterPro: IPR004079; GonadoliberinI.
 DR Pfam: PF00446; GnRH; 1.
 DR PRINTS: PR01541; GONADOLIBERNI.
 DR PROSITE: PS00473; GnRH; 1.
 DR Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Multigene family; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 22
 FT CHAIN 23 95 PROGONADOLIBERIN I.
 FT PEPTIDE 23 32 GONADOLIBERIN I.
 FT PEPTIDE 36 95 GnRH-ASSOCIATED PEPTIDE I (POTENTIAL).
 FT MOD_RES 23 23 PYRROLIDONE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT MOD_RES 32 32 AMIDATION (G-33 PROVIDE AMIDE GROUP)
 FT (BY SIMILARITY).
 FT SEQUENCE 95 AA; 10411 MW; 980C6988FC279BFC CRC64;
 SQ
 Query Match 57.5%; Score 42; DB 1; Length 95;
 Best Local Similarity 60.0%; Pred. No. 7.7; Indels 0; Gaps 0;
 Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
 QY 1 EHWSHGWYPG 10
 Db :|||:|
 23 QHWSYGLSPG 32
 RESULT 50
 GONI PAGMA
 ID -GONI PAGMA STANDARD; PRT; 95 AA.
 AC P00774;
 DT 15-JUL-1998 (Rel. 36, Created)
 DT 15-JUL-1998 (Rel. 36, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberin I precursor (Gonadotropin-releasing hormone I) (GnRH-I)
 DE (LH-RH I) (Luliberin I).
 GN GnRH.
 OS Pagrus major (Red sea bream) (Chrysophrys major).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
 OC Sparidae; Pagrus.
 OC NCBI_TaxID=143350;
 CX [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RA Okuzawa K., Graneman J., Bogerd J., Goos H., Zohar Y., Kagawa H.;
 RL Submitted (SEP-1996) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
 CC similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC -----
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 CC -----
 DR EMBL: D86582; BAA13129.1; -.
 DR InterPro: IPR002012; GnRH.
 DR InterPro: IPR004079; GonadoliberinI.
 DR Pfam: PF00446; GnRH; 1.
 DR PRINTS: PR01541; GONADOLIBERNI.
 DR PROSITE: PS00473; GnRH; 1.
 DR Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW

KW Signal; Multigene family; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23 POTENTIAL.
FT CHAIN 24 95 PROGNADOLIBERIN I.
FT PEPTIDE 24 33 GONADOLIBERIN I.
FT PEPTIDE 37 95 GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY
SIMILARITY).
FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP)
(BY SIMILARITY).
SQ SEQUENCE 95 AA; 10566 MW; 61E79C90328D73E CRC64;
Query Match 57.5%; Score 42; DB 1; Length 95;
Best Local Similarity 60.0%; Pred. No. 7.7;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGLSPG 33

Search completed: March 2, 2004, 19:26:15
Job time : 22 secs

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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:19:03 ; Search time 36 Seconds
(without alignments)
87.644 Million cell updates/sec

Title: US-09-857-115-6

Perfect score: 73

Sequence: 1 EHWGHWPG 10

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 500 summaries

Database :

SPTREMBL 25:
1: sp archaea.*
2: sp bacteria.*
3: sp fungi.*
4: sp human.*
5: sp invertebrate.*
6: sp mammal.*
7: sp mhc.*
8: sp organelle.*
9: sp phage.*
10: sp plant.*
11: sp rodent.*
12: sp virus.*
13: sp vertebrate.*
14: sp unclassified.*
15: sp rvirus.*
16: sp bacteriaph.*
17: sp archaea.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	70	95.9	62	Q7TIL5	Q7TIL5 odontesthes
2	70	95.9	75	Q9TTV0	Q9TTV0 trichosurus
3	70	95.9	85	Q8UW81	Q8UW81 verasper mo
4	70	95.9	86	Q9PT25	Q9PT25 oncorhynch
5	70	95.9	86	Q9PW69	Q9PW69 typhionecte
6	70	95.9	86	Q8QF08	Q8QF08 brachydanio
7	70	95.9	86	Q8UUK5	Q8UUK5 scleropages
8	70	95.9	86	Q8AWI6	Q8AWI6 cyprinus ca
9	70	95.9	86	Q8JHF1	Q8JHF1 brachydanio
10	70	95.9	86	Q7ZT17	Q7ZT17 cyprinus ca
11	70	95.9	87	Q9PRI3	Q9PRI3 anguilla ja
12	70	95.9	107	Q9TSI3	Q9TSI3 macaca mula
13	70	95.9	114	Q97655	Q97655 macaca mula
14	56	76.7	33	Q9W7G0	Q9W7G0 oncorhynch
15	56	76.7	33	Q9PT34	Q9PT34 oncorhynch
16	56	76.7	54	Q9W009	Q9W009 oncorhynch

17	56	76.7	62	13	Q90ZE1	Q90ZE1 oncorhynchu	
18	56	76.7	68	13	Q7TIL1	Q7TIL1 odontesthesch	
19	56	76.7	82	13	Q92094	Q92094 oncorhynchu	
20	56	76.7	82	13	Q90VY3	Q90VY3 oncorhynchu	
21	56	76.7	82	13	Q9W7G1	Q9W7G1 oncorhynchu	
22	56	76.7	82	13	Q918P9	Q918P9 oncorhynchu	
23	56	76.7	82	13	Q918Q0	Q918Q0 oncorhynchu	
24	56	76.7	88	13	Q9PSY9	Q9PSY9 sparus aura	
25	56	76.7	90	13	Q8UW82	Q8UW82 verasper mo	
26	56	76.7	90	13	Q8AWF6	Q8AWF6 oreochromis	
27	56	76.7	90	13	Q7ZT00	Q7ZT00 oreochromis	
28	56	76.7	94	13	Q9DD88	Q9DD88 brachydanio	
29	56	76.7	94	13	Q9DEH5	Q9DEH5 carassius a	
30	56	76.7	94	13	Q8UUK6	Q8UUK6 scleropages	
31	56	76.7	94	13	Q9DEH6	Q9DEH6 carassius a	
32	56	76.7	94	13	Q8UHC3	Q8UHC3 cyprinus ca	
33	56	76.7	94	13	Q804C1	Q804C1 cyprinus ca	
34	56	76.7	94	13	Q801D6	Q801D6 cyprinus ca	
35	56	76.7	94	13	Q801D5	Q801D5 cyprinus ca	
36	49	67.1	63	4	Q9HBX7	Q9HBX7 homo sapien	
37	48	65.8	86	13	Q8JH60	Q8JH60 alosa sapid	
38	47.5	65.1	319	17	Q27385	Q27385 methanobact	
39	47.5	65.1	321	17	Q27690	Q27690 methanobact	
40	47	64.4	380	4	Q15885	Q15885 homo sapien	
41	47	64.4	818	4	Q9H6S2	Q9H6S2 homo sapien	
42	46	63.0	89	5	Q8T8D2	Q8T8D2 octopus vul	
43	45	61.6	437	16	Q8X5D0	Q8X5D0 escherichia	
44	45	61.6	439	16	Q8XEG4	Q8XEG4 escherichia	
45	45	61.6	439	16	Q8X5A7	Q8X5A7 escherichia	
46	44	60.3	377	2	Q93JN5	Q93JN5 rhizobium l	
47	44	60.3	377	2	Q9XDJ6	Q9XDJ6 bacteroides	
48	44	60.3	415	2	Q8GDL7	Q8GDL7 photorhabdu	
49	44	60.3	602	16	Q7USD7	Q7USD7 rhodopirell	
50	43	58.9	219	5	Q86D90	Q86D90 ciona intes	
51	43	58.9	219	5	Q86D89	Q86D89 ciona intes	
52	43	58.9	517	2	Q69212	Q69212 actinosyne	
53	43	58.9	752	16	Q8A9B9	Q8A9B9 bacteroides	
54	43	58.9	820	16	Q8RAM1	Q8RAM1 thermoanaer	
55	43	58.9	863	16	Q8DHG4	Q8DHG4 synchococ	
56	43	58.9	866	16	Q8YZ85	Q8YZ85 anabaena sp	
57	43	58.9	869	16	P74527	P74527 synchocyst	
58	43	58.9	882	16	Q8YU27	Q8YU27 listeria mo	
59	42	57.5	882	16	Q8JIF3	Q8JIF3 dentex dent	
60	42	57.5	64	13	Q8JIF2	Q8JIF2 pagrus majo	
61	42	57.5	68	13	Q8JIF4	Q8JIF4 acanthopagr	
62	42	57.5	87	13	Q9YI26	Q9YI26 sparus aura	
63	42	57.5	91	13	Q9PRH0	Q9PRH0 anguilla ja	
64	42	57.5	94	13	Q8JFY3	Q8JFY3 oreochromis	
65	42	57.5	96	13	Q8UW80	Q8UW80 verasper mo	
66	42	57.5	98	13	Q805A5	Q805A5 oreochromis	
67	42	57.5	120	13	Q7T059	Q7T059 microgorgoni	
68	42	57.5	130	16	Q7V6V2	Q7V6V2 prochloroco	
69	42	57.5	165	13	Q91B77	Q91B77 brachydanio	
70	42	57.5	167	16	Q8YIE7	Q8YIE7 bruceella me	
71	42	57.5	169	16	Q8PZG7	Q8PZG7 bruceella su	
72	42	57.5	397	17	Q9TV92	Q9TV92 sulfolobus	
73	42	57.5	816	10	Q7XWR9	Q7XWR9 oryza sativ	
74	42	57.5	929	10	Q7XDU9	Q7XDU9 oryza sativ	
75	41.5	56.8	449	16	Q9K738	Q9K738 bacillus ha	
76	41	56.2	197	16	Q81PY8	Q81PY8 bacillus an	
77	41	56.2	443	16	Q7U8H4	Q7U8H4 synchococ	
78	41	56.2	450	16	Q8YMC7	Q8YMC7 anabaena sp	
79	41	56.2	534	4	Q96SA2	Q96SA2 homo sapien	
80	41	56.2	534	4	Q8NDL2	Q8NDL2 homo sapien	
81	41	56.2	1230	16	Q8FIF6	Q8FIF6 escherichia	
82	41	56.2	1337	10	Q8S7U7	Q8S7U7 oryza sativ	
83	41	56.2	2091	16	Q97J50	Q97J50 clostridium	
84	40.5	55.5	413	16	O06185	O06185 mycobacteri	
85	40.5	55.5	55.5	413	16	Q7TV71	Q7TV71 mycobacteri
86	40.5	55.5	704	6	Q8WNT7	Q8WNT7 macaca fasc	
87	40.5	55.5	2843	12	Q89251	Q89251 hepatitis g	
88	40	54.8	26	7	O19694	O19694 homo sapien	
89	40	54.8	154	16	Q89W41	Q89W41 bradyrhizob	

90	40	54.8	162	16	Q8ZS38	Q8S38 anabaena sp	163	39	53.4	645	9	Q7Y3C2	Q7Y3C2 stx1 conver
91	40	54.8	173	8	Q8HMF8	Q8HMF8 birembo imb	164	39	53.4	645	9	Q7Y2W1	Q7Y2W1 stx2 conver
92	40	54.8	228	16	Q7WPF3	Q7WPF3 bordetella	165	39	53.4	645	16	Q8XAX7	Q8XAX7 escherichia
93	40	54.8	228	16	Q7WBR1	Q7WBR1 bordetella	166	39	53.4	678	9	Q8SCA4	Q8SCA4 stx2 conver
94	40	54.8	228	16	Q7VSS9	Q7VSS9 bordetella	167	39	53.4	737	13	Q8O2W8	Q8O2W8 brachydanio
95	40	54.8	260	10	Q7XLM7	Q7XLM7 oryza sativ	168	39	53.4	851	15	Q7O145	Q7O145 human immun
96	40	54.8	278	10	Q74HM7	Q74HM7 oryza sativ	169	39	53.4	918	16	Q81K50	Q81K50 bacillus an
97	40	54.8	278	10	Q7XG09	Q7XG09 oryza sativ	170	39	53.4	1021	16	Q8YXZ7	Q8YXZ7 anabaena sp
98	40	54.8	307	4	Q14792	Q14792 homo sapien	171	39	53.4	1185	16	Q7UXA1	Q7UXA1 rhodopirell
99	40	54.8	307	5	Q9VJ65	Q9VJ65 drosophila	172	39	53.4	1344	12	Q88483	Q88483 tomato blac
100	40	54.8	320	5	Q8INX3	Q8INX3 drosophila	173	39	53.4	1480	10	Q7TBE2	Q7TBE2 canine coro
101	40	54.8	321	5	Q9VY52	Q9VY52 drosophila	174	39	53.4	2046	16	Q7ULY0	Q7ULY0 rhodopirell
102	40	54.8	328	4	Q8N6L6	Q8N6L6 homo sapien	175	39	53.4	2367	2	Q9EXR0	Q9EXR0 clostridium
103	40	54.8	417	5	Q9TX12	Q9TX12 caenorhabdi	176	39	53.4	261	2	Q8GI01	Q8GI01 pseudomonas
104	40	54.8	500	10	Q8ANQ1	Q8ANQ1 oryza sativ	177	39	53.4	316	2	P95446	P95446 pseudomonas
105	40	54.8	543	2	Q9L868	Q9L868 desulfovibr	178	39	53.4	66	16	Q8Z1D5	Q8Z1D5 salmonella
106	40	54.8	575	10	Q7Y0B2	Q7Y0B2 oryza sativ	179	39	53.4	76	16	Q8FJ04	Q8FJ04 escherichia
107	40	54.8	577	7	Q95IG1	Q95IG1 homo sapien	180	39	53.4	82	4	Q8NEE0	Q8NEE0 homo sapien
108	40	54.8	610	16	Q8A579	Q8A579 bacteroides	181	39	53.4	101	16	Q89173	Q89173 bradyrhizob
109	40	54.8	635	13	Q7ZUD0	Q7ZUD0 brachydanio	182	39	53.4	112	15	Q88131	Q88131 chimpanzee
110	40	54.8	697	16	Q930Q8	Q930Q8 rhizobium m	183	39	53.4	112	15	Q88137	Q88137 chimpanzee
111	40	54.8	752	6	Q8SQ75	Q8SQ75 pongc pygma	184	39	53.4	112	15	Q88125	Q88125 chimpanzee
112	40	54.8	752	6	Q8SQ74	Q8SQ74 pan troglod	185	39	53.4	112	15	Q89827	Q89827 chimpanzee
113	40	54.8	752	6	Q863A0	Q863A0 gorilla gor	186	39	53.4	123	2	Q8GLL4	Q8GLL4 legionella
114	40	54.8	760	11	Q7O350	Q7O350 mus musculu	187	39	53.4	132	16	Q92X97	Q92X97 rhizobium m
115	40	54.8	827	8	Q35056	Q35056 marchantia	188	39	53.4	182	16	Q916C9	Q916C9 pseudomonas
116	40	54.8	856	11	Q62121	Q62121 mus musculu	189	39	53.4	209	11	Q9DAS6	Q9DAS6 mus musculu
117	40	54.8	888	5	Q96232	Q96232 plasmodium	190	39	53.4	211	5	Q9VUK1	Q9VUK1 drosophila
118	40	54.8	1191	16	Q884Z0	Q884Z0 pseudomonas	191	39	53.4	250	16	Q883I2	Q883I2 lactobacilli
119	39.5	54.1	300	11	Q8BX89	Q8BX89 mus musculu	192	39	53.4	256	16	Q7T2P6	Q7T2P6 mycobacteri
120	39.5	54.1	449	16	Q93LK3	Q93LK3 enterococu	193	39	53.4	256	16	P71986	P71986 mycobacteri
121	39.5	54.1	463	16	Q81V11	Q81V11 bacillus an	194	39	53.4	267	5	Q95T44	Q95T44 drosophila
122	39.5	54.1	463	16	Q81HU3	Q81HU3 bacillus ce	195	39	53.4	267	2	Q54020	Q54020 paracoccus
123	39	53.4	54	2	Q8VSI7	Q8VSI7 shigella fl	196	39	53.4	311	16	Q7U613	Q7U613 synecococc
124	39	53.4	72	13	Q7M1L2	Q7M1L2 odontesthes	197	39	53.4	345	16	Q82A21	Q82A21 streptomyce
125	39	53.4	112	16	Q7U6Z4	Q7U6Z4 synecococc	198	39	53.4	349	16	Q7UA26	Q7UA26 synecococc
126	39	53.4	116	10	Q8W5G8	Q8W5G8 oryza sativ	199	39	53.4	385	16	Q8UD44	Q8UD44 agrobacteri
127	39	53.4	152	9	Q854J3	Q854J3 mycobacteri	200	39	53.4	386	2	Q9KWS7	Q9KWS7 pectobacter
128	39	53.4	158	11	Q8C2A8	Q8C2A8 mus musculu	201	39	53.4	386	16	Q7U8H5	Q7U8H5 synecococc
129	39	53.4	169	13	Q8AVV7	Q8AVV7 xenopus lae	202	39	53.4	400	17	Q973A3	Q973A3 sulfobolus
130	39	53.4	169	13	Q9PVQ0	Q9PVQ0 xenopus lae	203	39	53.4	414	16	Q87Z24	Q87Z24 pseudomonas
131	39	53.4	243	12	Q91T18	Q91T18 tupaia herp	204	39	53.4	421	17	Q9HIF9	Q9HIF9 thermoplasm
132	39	53.4	251	15	Q66934	Q66934 feline immu	205	39	53.4	438	12	Q8VSE3	Q8VSE3 ndelle viru
133	39	53.4	278	11	Q9D1J4	Q9D1J4 mus musculu	206	39	53.4	439	5	Q9VUJ1	Q9VUJ1 drosophila
134	39	53.4	278	11	Q91WA1	Q91WA1 mus musculu	207	39	53.4	468	16	Q8AZW8	Q8AZW8 bacteroides
135	39	53.4	278	11	Q9CQM3	Q9CQM3 mus musculu	208	39	53.4	474	16	Q8FQ44	Q8FQ44 corynebacte
136	39	53.4	301	4	Q9NWZ6	Q9NWZ6 homo sapien	209	39	53.4	478	16	Q7VWX3	Q7VWX3 bordetella
137	39	53.4	301	4	Q9BVW5	Q9BVW5 homo sapien	210	39	53.4	480	16	Q7W507	Q7W507 bordetella
138	39	53.4	347	2	P95470	P95470 cellivibrio	211	39	53.4	492	16	Q82M06	Q82M06 streptomyce
139	39	53.4	347	16	Q8ZSJ7	Q8ZSJ7 salmonella	212	39	53.4	509	2	Q54345	Q54345 streptomyce
140	39	53.4	364	10	Q9SJM9	Q9SJM9 arabidopsis	213	39	53.4	520	2	Q43444	Q43444 streptomyce
141	39	53.4	380	16	Q8A9F8	Q8A9F8 bacteroides	214	39	53.4	520	16	Q9ADF5	Q9ADF5 streptomyce
142	39	53.4	381	2	Q8VKZ1	Q8VKZ1 enterobacte	215	39	53.4	521	5	Q31195	Q31195 caenorhabdi
143	39	53.4	381	2	Q83024	Q83024 enterobacte	216	39	53.4	524	5	O18059	O18059 caenorhabdi
144	39	53.4	387	12	O11422	O11422 duck adenov	217	39	53.4	527	3	Q9HE31	Q9HE31 neurospora
145	39	53.4	390	10	Q84YV8	Q84YV8 arabidopsis	218	39	53.4	530	5	Q9U3K9	Q9U3K9 caenorhabdi
146	39	53.4	407	16	Q8X5F6	Q8X5F6 escherichia	219	39	53.4	562	16	Q87BP5	Q87BP5 vibrio para
147	39	53.4	428	13	Q9PWC8	Q9PWC8 brachydanio	220	39	53.4	565	16	Q8CK53	Q8CK53 streptomyce
148	39	53.4	430	13	Q9PWC8	Q9PWC8 brachydanio	221	39	53.4	588	10	Q9SDC0	Q9SDC0 oryza sativ
149	39	53.4	430	13	Q9PWC8	Q9PWC8 brachydanio	222	39	53.4	589	16	Q7UW98	Q7UW98 rhodopirell
150	39	53.4	431	13	Q9PWC8	Q9PWC8 brachydanio	223	39	53.4	606	16	Q8R5T2	Q8R5T2 rhodopirell
151	39	53.4	432	13	Q9PWC8	Q9PWC8 brachydanio	224	39	53.4	637	2	Q937B8	Q937B8 pseudomonas
152	39	53.4	438	16	Q8XSD6	Q8XSD6 escherichia	225	39	53.4	637	2	Q7X3D2	Q7X3D2 gamma-prote
153	39	53.4	440	16	Q8X3W0	Q8X3W0 escherichia	226	39	53.4	712	13	Q8O0R0	Q8O0R0 anabieps an
154	39	53.4	450	16	Q891V1	Q891V1 bradyrhizob	227	39	53.4	749	2	Q8KJB6	Q8KJB6 gordonia sp
155	39	53.4	457	2	Q9KHG6	Q9KHG6 naemophilus	228	39	53.4	1189	16	Q7UPG0	Q7UPG0 rhodopirell
156	39	53.4	542	16	Q8P222	Q8P222 xanthomonas	229	39	53.4	1219	10	Q9S121	Q9S121 arabidopsis
157	39	53.4	599	2	Q8L0X1	Q8L0X1 acinetobact	230	39	53.4	1436	16	Q8G523	Q8G523 bifidobacte
158	39	53.4	601	16	Q9I612	Q9I612 pseudomonas	231	39	53.4	5060	2	Q9K5M1	Q9K5M1 anabaena sp
159	39	53.4	601	16	Q8QW6	Q8QW6 pseudomonas	232	39	53.4	5216	5	Q9VXZ5	Q9VXZ5 drosophila
160	39	53.4	601	16	Q88A92	Q88A92 pseudomonas	233	39	53.4	5233	5	Q9NB71	Q9NB71 drosophila
161	39	53.4	645	2	Q9KXB9	Q9KXB9 escherichia	234	39	53.4	385	5	Q9KX90	Q9KX90 caenorhabdi
162	39	53.4	645	9	Q9XJK8	Q9XJK8 bacterioph	235	39	53.4	401	16	P72927	P72927 synecocyst

236	37.5	51.4	491	17	Q8ZY98	Q8ZY98 pyrobaculum	309	37	50.7	133	12	041700	041700 hepatitis g
237	37.5	51.4	496	2	Q9AKN4	Q9AKN4 rickettsia	310	37	50.7	133	12	041736	041736 hepatitis g
238	37.5	51.4	496	2	Q9AKN4	Q9AKN4 rickettsia	311	37	50.7	133	12	041736	041736 hepatitis g
239	37.5	51.4	496	16	Q92J41	Q92J41 rickettsia	312	37	50.7	133	12	041693	041693 hepatitis g
240	37.5	51.4	508	8	Q9GHS7	Q9GHS7 lophiola au	313	37	50.7	133	12	041738	041738 hepatitis g
241	37.5	51.4	508	17	Q9YB20	Q9YB20 aeropyrum p	314	37	50.7	133	12	041715	041715 hepatitis g
242	37.5	51.4	1115	16	Q7URP5	Q7URP5 rhodopirell	315	37	50.7	133	12	041721	041721 hepatitis g
243	37	50.7	80	10	Q8S7D3	Q8S7D3 oryza sativ	316	37	50.7	133	12	041711	041711 hepatitis g
244	37	50.7	80	10	Q7XC11	Q7XC11 oryza sativ	317	37	50.7	133	12	041716	041716 hepatitis g
245	37	50.7	90	16	Q8A4G1	Q8A4G1 bacteroides	318	37	50.7	133	12	041733	041733 hepatitis g
246	37	50.7	92	12	Q90388	Q90388 hepatitis g	319	37	50.7	133	12	041717	041717 hepatitis g
247	37	50.7	92	12	Q90389	Q90389 hepatitis g	320	37	50.7	133	12	041717	041717 hepatitis g
248	37	50.7	92	12	Q90397	Q90397 hepatitis g	321	37	50.7	133	12	041691	041691 hepatitis g
249	37	50.7	92	12	Q90390	Q90390 hepatitis g	322	37	50.7	133	12	041713	041713 hepatitis g
250	37	50.7	92	12	Q90393	Q90393 hepatitis g	323	37	50.7	133	12	041728	041728 hepatitis g
251	37	50.7	92	12	Q90394	Q90394 hepatitis g	324	37	50.7	133	12	041731	041731 hepatitis g
252	37	50.7	92	12	Q90392	Q90392 hepatitis g	325	37	50.7	133	12	041707	041707 hepatitis g
253	37	50.7	92	12	Q90395	Q90395 hepatitis g	326	37	50.7	133	12	041735	041735 hepatitis g
254	37	50.7	92	12	Q90396	Q90396 hepatitis g	327	37	50.7	133	12	041704	041704 hepatitis g
255	37	50.7	92	12	Q90391	Q90391 hepatitis g	328	37	50.7	133	12	041725	041725 hepatitis g
256	37	50.7	99	13	Q90WU7	Q90WU7 ctenophorus	329	37	50.7	133	12	041685	041685 hepatitis g
257	37	50.7	103	12	Q55297	Q55297 hepatitis g	330	37	50.7	133	12	041689	041689 hepatitis g
258	37	50.7	103	12	Q55306	Q55306 hepatitis g	331	37	50.7	133	12	041696	041696 hepatitis g
259	37	50.7	103	12	Q55294	Q55294 hepatitis g	332	37	50.7	133	12	041732	041732 hepatitis g
260	37	50.7	103	12	Q55308	Q55308 hepatitis g	333	37	50.7	133	12	041687	041687 hepatitis g
261	37	50.7	103	12	Q55305	Q55305 hepatitis g	334	37	50.7	133	12	041690	041690 hepatitis g
262	37	50.7	103	12	Q55302	Q55302 hepatitis g	335	37	50.7	133	12	041714	041714 hepatitis g
263	37	50.7	103	12	Q55299	Q55299 hepatitis g	336	37	50.7	133	12	041709	041709 hepatitis g
264	37	50.7	103	12	Q55307	Q55307 hepatitis g	337	37	50.7	133	12	041699	041699 hepatitis g
265	37	50.7	103	12	Q55296	Q55296 hepatitis g	338	37	50.7	133	12	041726	041726 hepatitis g
266	37	50.7	103	12	Q55315	Q55315 hepatitis g	339	37	50.7	133	12	041701	041701 hepatitis g
267	37	50.7	103	12	Q55314	Q55314 hepatitis g	340	37	50.7	133	12	041682	041682 hepatitis g
268	37	50.7	103	12	Q55310	Q55310 hepatitis g	341	37	50.7	133	12	041719	041719 hepatitis g
269	37	50.7	103	12	Q55309	Q55309 hepatitis g	342	37	50.7	133	12	041727	041727 hepatitis g
270	37	50.7	103	12	Q55298	Q55298 hepatitis g	343	37	50.7	133	12	041723	041723 hepatitis g
271	37	50.7	103	12	Q55311	Q55311 hepatitis g	344	37	50.7	133	12	041708	041708 hepatitis g
272	37	50.7	103	12	Q55295	Q55295 hepatitis g	345	37	50.7	133	12	041703	041703 hepatitis g
273	37	50.7	103	12	Q55300	Q55300 hepatitis g	346	37	50.7	133	12	041710	041710 hepatitis g
274	37	50.7	103	12	Q55313	Q55313 hepatitis g	347	37	50.7	133	12	041720	041720 hepatitis g
275	37	50.7	103	12	Q55316	Q55316 hepatitis g	348	37	50.7	133	12	041706	041706 hepatitis g
276	37	50.7	103	12	Q55303	Q55303 hepatitis g	349	37	50.7	133	12	041694	041694 hepatitis g
277	37	50.7	103	12	Q55301	Q55301 hepatitis g	350	37	50.7	133	12	041722	041722 hepatitis g
278	37	50.7	103	12	Q55312	Q55312 hepatitis g	351	37	50.7	133	12	041718	041718 hepatitis g
279	37	50.7	104	12	Q36459	Q36459 hepatitis g	352	37	50.7	133	12	041737	041737 hepatitis g
280	37	50.7	104	12	Q36482	Q36482 hepatitis g	353	37	50.7	133	12	041681	041681 hepatitis g
281	37	50.7	104	12	Q36481	Q36481 hepatitis g	354	37	50.7	133	12	041739	041739 hepatitis g
282	37	50.7	104	12	Q36480	Q36480 hepatitis g	355	37	50.7	133	12	041692	041692 hepatitis g
283	37	50.7	104	12	Q36471	Q36471 hepatitis g	356	37	50.7	134	16	Q8CXR5	Q8CXR5 leptospira
284	37	50.7	104	12	Q36469	Q36469 hepatitis g	357	37	50.7	140	12	072494	072494 hepatitis g
285	37	50.7	104	12	Q36458	Q36458 hepatitis g	358	37	50.7	140	12	072496	072496 hepatitis g
286	37	50.7	104	12	Q36477	Q36477 hepatitis g	359	37	50.7	140	12	072497	072497 hepatitis g
287	37	50.7	104	12	Q36461	Q36461 hepatitis g	360	37	50.7	140	12	072495	072495 hepatitis g
288	37	50.7	104	12	Q36472	Q36472 hepatitis g	361	37	50.7	140	12	072502	072502 hepatitis g
289	37	50.7	104	12	Q36484	Q36484 hepatitis g	362	37	50.7	140	12	072500	072500 hepatitis g
290	37	50.7	104	12	Q36485	Q36485 hepatitis g	363	37	50.7	140	12	072504	072504 hepatitis g
291	37	50.7	104	12	Q36457	Q36457 hepatitis g	364	37	50.7	140	12	072500	072500 hepatitis g
292	37	50.7	104	12	Q36475	Q36475 hepatitis g	365	37	50.7	140	12	072498	072498 hepatitis g
293	37	50.7	104	12	Q36479	Q36479 hepatitis g	366	37	50.7	141	12	072501	072501 hepatitis g
294	37	50.7	104	12	Q36473	Q36473 hepatitis g	367	37	50.7	141	12	072503	072503 hepatitis g
295	37	50.7	104	12	Q36465	Q36465 hepatitis g	368	37	50.7	141	12	072503	072503 hepatitis g
296	37	50.7	104	12	Q36464	Q36464 hepatitis g	369	37	50.7	148	6	Q9GKU3	Q9GKU3 macaca fasc
297	37	50.7	104	12	Q36460	Q36460 hepatitis g	370	37	50.7	148	16	Q915B7	Q915B7 pseudomonas
298	37	50.7	104	12	Q36462	Q36462 hepatitis g	371	37	50.7	148	16	Q97XU5	Q97XU5 sulfolobus
299	37	50.7	104	12	Q36466	Q36466 hepatitis g	372	37	50.7	155	16	Q8A5L2	Q8A5L2 bacteroides
300	37	50.7	104	12	Q36474	Q36474 hepatitis g	373	37	50.7	166	16	Q889E0	Q889E0 pseudomonas
301	37	50.7	104	12	Q36467	Q36467 hepatitis g	374	37	50.7	173	8	Q8HKQ0	Q8HKQ0 aspadma min
302	37	50.7	104	12	Q36468	Q36468 hepatitis g	375	37	50.7	175	16	Q8PJB0	Q8PJB0 xanthomonas
303	37	50.7	104	12	Q36470	Q36470 hepatitis g	376	37	50.7	179	10	Q7V1I4	Q7V1I4 oryza sativ
304	37	50.7	104	12	Q36483	Q36483 hepatitis g	377	37	50.7	189	12	Q91A03	Q91A03 hepatitis g
305	37	50.7	105	11	Q8C1Q3	Q8C1Q3 mus musculu	378	37	50.7	189	12	Q91A04	Q91A04 hepatitis g
306	37	50.7	108	13	Q802T9	Q802T9 brachydanio	379	37	50.7	189	12	Q91A05	Q91A05 hepatitis g
307	37	50.7	108	13	Q802T8	Q802T8 brachydanio	380	37	50.7	189	12	Q91A02	Q91A02 hepatitis g
308	37	50.7	131	13	Q8QGN8	Q8QGN8 scylliorhinu	381	37	50.7	189	12	Q91A00	Q91A00 hepatitis g

382	37	50.7	189	12	Q919Z7	Q919Z7 hepatitis g	455	37	50.7	393	13	Q91AS7	Q91as7 xenopus lae
383	37	50.7	189	12	Q919Z8	Q919Z8 hepatitis g	456	37	50.7	393	13	Q91AS8	Q91as8 xenopus lae
384	37	50.7	189	12	Q919Z9	Q919Z9 hepatitis g	457	37	50.7	394	16	Q8YZF3	Q8yzf3 anabaena sp
385	37	50.7	189	12	Q91A01	Q91A01 hepatitis g	458	37	50.7	395	16	Q82PH0	Q82ph0 streptomyce
386	37	50.7	189	12	Q91A06	Q91A06 hepatitis g	459	37	50.7	397	5	Q81198	Q81198 drosophila
387	37	50.7	190	16	Q9K0E1	Q9K0E1 neisseria m	460	37	50.7	400	5	Q9W115	Q9w115 drosophila
388	37	50.7	190	16	Q9UVE9	Q9UVE9 neisseria m	461	37	50.7	404	13	Q9PRE5	Q9pre5 ambystoma m
389	37	50.7	191	4	Q96ER7	Q96er7 homo sapien	462	37	50.7	407	13	P70053	P70053 fugu rubrip
390	37	50.7	194	5	Q43957	Q43957 trichomonas	463	37	50.7	409	13	Q93435	Q93435 cynops pyrr
391	37	50.7	195	5	Q95052	Q95052 tritrichomo	464	37	50.7	409	13	O57582	O57582 cynops pyrr
392	37	50.7	195	5	Q95051	Q95051 tritrichomo	465	37	50.7	412	16	Q8DL89	Q8dl89 synechococ
393	37	50.7	197	16	Q8AB85	Q8ab85 bacteroides	466	37	50.7	414	16	Q8D4L0	Q8d4l0 vibrio vuln
394	37	50.7	203	2	Q93K55	Q93K55 frankia sp.	467	37	50.7	419	13	Q9PRE4	Q9pre4 ambystoma m
395	37	50.7	204	16	Q7WES9	Q7wes9 bordetella	468	37	50.7	420	16	P73615	P73615 synechocyst
396	37	50.7	204	16	Q7W3F9	Q7w3f9 bordetella	469	37	50.7	421	13	P70001	P70001 xenopus lae
397	37	50.7	204	16	Q7W0P5	Q7w0p5 bordetella	470	37	50.7	421	16	Q87WE8	Q87we8 pseudomonas
398	37	50.7	207	16	Q88B25	Q88b25 pseudomonas	471	37	50.7	422	11	Q8CE15	Q8ce15 mus musculu
399	37	50.7	211	2	Q8KQY1	Q8kqy1 vibrio chol	472	37	50.7	423	13	Q91877	Q91877 xenopus lae
400	37	50.7	213	13	O12974	O12974 oryzias sp.	473	37	50.7	423	13	O57581	O57581 cynops pyrr
401	37	50.7	216	16	Q8NSP0	Q8nsp0 corynebacte	474	37	50.7	427	16	Q987C9	Q987c9 rhizobium l
402	37	50.7	220	16	Q8EY8	Q8ey8 pseudomonas	475	37	50.7	427	16	Q89T23	Q89t23 bradyrhizob
403	37	50.7	230	17	Q8TWH0	Q8twh0 methanopyru	476	37	50.7	428	16	Q89T23	Q89t23 bradyrhizob
404	37	50.7	233	13	P87389	P87389 triturus al	477	37	50.7	433	2	Q8GDF1	Q8gdf1 propionibac
405	37	50.7	235	4	O75296	O75296 homo sapien	478	37	50.7	433	13	O42292	O42292 astyanax fa
406	37	50.7	237	3	Q873M4	Q873m4 malassezia	479	37	50.7	435	16	Q88W38	Q88w38 lactobacill
407	37	50.7	245	16	Q8E8H0	Q8e8h0 shewanella	480	37	50.7	435	16	Q88W38	Q88w38 lactobacill
408	37	50.7	246	11	Q8CER0	Q8cer0 mus musculu	481	37	50.7	436	11	Q921Q8	Q921q8 mus musculu
409	37	50.7	253	2	O32402	O32402 rhodocyclu	482	37	50.7	436	13	O42348	O42348 gallus gall
410	37	50.7	258	16	Q8YSA0	Q8ysa0 anabaena sp	483	37	50.7	437	13	Q9VHZ8	Q9vHz8 brachydanio
411	37	50.7	260	2	F71102	F71102 curtbacter	484	37	50.7	437	13	O42612	O42612 astyanax fa
412	37	50.7	272	16	Q881U2	Q881u2 pseudomonas	485	37	50.7	441	5	O8MQ19	O8mq19 caenorhabdi
413	37	50.7	273	16	Q92KY1	Q92ky1 rhizobium m	486	37	50.7	442	2	O7WXY2	O7wxy2 pseudomonas
414	37	50.7	278	2	O53051	O53051 rhodococcus	487	37	50.7	448	13	Q90YA2	Q90ya2 lampetra ja
415	37	50.7	282	11	Q8VDB7	Q8vdb7 mus musculu	488	37	50.7	451	16	Q92541	Q92541 streptomyce
416	37	50.7	288	11	Q91WL2	Q91wl2 mus musculu	489	37	50.7	452	13	O57583	O57583 cynops pyrr
417	37	50.7	298	12	Q9E9P5	Q9e9p5 hepatitis g	490	37	50.7	453	13	Q91886	Q91886 xenopus lae
418	37	50.7	298	12	Q9E9P7	Q9e9p7 hepatitis g	491	37	50.7	453	13	Q8AVP0	Q8avp0 xenopus lae
419	37	50.7	298	12	Q9E9Q6	Q9e9q6 hepatitis g	492	37	50.7	459	13	O42293	O42293 astyanax fa
420	37	50.7	298	12	Q9E9Q4	Q9e9q4 hepatitis g	493	37	50.7	461	16	Q91202	Q91202 streptomyce
421	37	50.7	298	12	Q9E9Q8	Q9e9q8 hepatitis g	494	37	50.7	471	16	Q915Q1	Q915q1 pseudomonas
422	37	50.7	298	12	Q9E9Q1	Q9e9q1 hepatitis g	495	37	50.7	471	16	Q82DY7	Q82dy7 streptomyce
423	37	50.7	298	12	Q9E9P2	Q9e9p2 hepatitis g	496	37	50.7	472	16	Q98QF0	Q98qf0 mycoplasma
424	37	50.7	298	12	Q9E9P8	Q9e9p8 hepatitis g	497	37	50.7	510	5	Q20929	Q20929 caenorhabdi
425	37	50.7	298	12	Q9E9Q3	Q9e9q3 hepatitis g	498	37	50.7	510	12	O41677	O41677 hepatitis g
426	37	50.7	298	12	Q9E9P9	Q9e9p9 hepatitis g	499	37	50.7	519	12	O41679	O41679 hepatitis g
427	37	50.7	298	12	Q9E9P6	Q9e9p6 hepatitis g	500	37	50.7	519	12	O41679	O41679 hepatitis g
428	37	50.7	298	12	Q9E9Q9	Q9e9q9 hepatitis g							
429	37	50.7	298	12	Q9E9Q0	Q9e9q0 hepatitis g							
430	37	50.7	298	12	Q9E9P3	Q9e9p3 hepatitis g							
431	37	50.7	298	12	Q9E9P0	Q9e9p0 hepatitis g							
432	37	50.7	298	12	Q9E9Q5	Q9e9q5 hepatitis g							
433	37	50.7	298	12	Q9E9P1	Q9e9p1 hepatitis g							
434	37	50.7	298	12	Q9E9Q2	Q9e9q2 hepatitis g							
435	37	50.7	298	12	Q9E9Q7	Q9e9q7 hepatitis g							
436	37	50.7	298	12	Q9E9P4	Q9e9p4 hepatitis g							
437	37	50.7	298	16	Q871Z8	Q871z8 vibrio para							
438	37	50.7	299	4	Q9HFZ2	Q9hfz2 homo sapien							
439	37	50.7	309	11	Q8VDB3	Q8vdb3 mus musculu							
440	37	50.7	317	8	Q8HQ86	Q8hq86 schizosacch							
441	37	50.7	338	5	P91504	P91504 caenorhabdi							
442	37	50.7	338	16	Q8BPV4	Q8bpv4 pseudomonas							
443	37	50.7	340	6	Q8HZ90	Q8hz90 saginus oe							
444	37	50.7	340	4	Q7Z6A4	Q7z6a4 homo sapien							
445	37	50.7	352	11	Q8VHL9	Q8vhl9 mus musculu							
446	37	50.7	358	2	Q7WZP5	Q7wzp5 pseudomonas							
447	37	50.7	365	16	Q88Q83	Q88q83 pseudomonas							
448	37	50.7	367	16	Q889D3	Q889d3 pseudomonas							
449	37	50.7	370	13	P70002	P70002 xenopus lae							
450	37	50.7	383	10	O22692	O22692 arabidopsis							
451	37	50.7	384	16	Q8Z6T4	Q8z6t4 salmonella							
452	37	50.7	390	16	Q91AS6	Q91as6 xenopus lae							
453	37	50.7	390	13	Q9PRE3	Q9pre3 ambystoma m							
454	37	50.7	393	13	Q91AS5	Q91as5 xenopus lae							

ALIGNMENTS

RESULT 1

ID	Q7T1L5	PRELIMINARY;	PRT;	62 AA.
AC	Q7T1L5			
DT	01-OCT-2003 (TRENBLZrel. 25, Created)			
DT	01-OCT-2003 (TRENBLZrel. 25, Last sequence update)			
DT	01-OCT-2003 (TRENBLZrel. 25, Last annotation update)			
DE	Gonadotropin-releasing hormone-II (Fragment)			
OS	Odontesthes bonariensis.			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;			
OC	Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;			
OC	Atheriniformes; Atherinoidei; Atherinidae; Atherinopsinae;			
OC	Odontesthes.			
OX	NCBI_TaxID=219752;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE=Brain;			
RA	Guligur L.G., Miranda L.A., Somoza G.M.;			
RT	"Characterization of three GnRH cDNA sequences in the pejerrey fish			
RT	Odontesthes bonariensis."			
RL	Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.			

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DR EMBL; AY316690; AAP84604.1; -.
FT NON_TER 1 1
SQ SEQUENCE 62 AA; 7259 MW; 0D24C3AA0E94083F CRC64;

Query Match 95.9%; Score 70; DB 13; Length 62;
Best Local Similarity 90.0%; Pred. No. 0.0042;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db :|||||
1 QHWSHGWPY 10

RESULT 2
Q9TTVO PRELIMINARY; PRT; 75 AA.
AC Q9TTVO;
DT 01-MAY-2000 (TREMELrel. 13, Created)
DT 01-MAY-2000 (TREMELrel. 13, Last sequence update)
DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)
DE Type II gonadotrophin-releasing hormone (Gonadoliberin) (Gonadotropin-
releasing hormone) (GnRH) (LH-RH) (Luliberin).
OS Trichosurus vulpecula (Brush-tailed possum).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Diprotodontia; Phalangeridae; Trichosurus.
OX NCBI_TaxID=9337;
RN [1]
RP SEQUENCE FROM N.A.
RA Lawrence S.B., McNatty K.P., Fidler A.E.;
RT "cDNA Sequence of the chicken type II gonadotrophin releasing hormone
(cII GnRH) gene of the brushtail possum (Trichosurus vulpecula).";
RL Submitted (OCT-1999) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GnRH FAMILY.
DR EMBL; AF193516; AAF07190.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 75 AA; 8381 MW; 1C0E324492CA4283 CRC64;

Query Match 95.9%; Score 70; DB 6; Length 75;
Best Local Similarity 90.0%; Pred. No. 0.0051;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db :|||||
23 QHWSHGWPY 32

RESULT 3
Q8UW81 PRELIMINARY; PRT; 85 AA.
AC Q8UW81;
DT 01-MAR-2002 (TREMELrel. 20, Created)
DT 01-MAR-2002 (TREMELrel. 20, Last sequence update)
DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)
DE Chicken-II type gonadotropin-releasing hormone precursor
(Gonadoliberin) (GnRH) (LH-RH) (Luliberin).
OS Vespaer moseri (Barfin flounder).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC Pleuronectoidae; Pleuronectidae; Vasaer.
OX NCBI_TaxID=98923;
RN [1]
RP SEQUENCE FROM N.A.
RA Amato M.;
RT "Molecular cloning of three cDNAs encoding GnRH in the brain of barfin

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RT flounder.";
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases. (BY
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GnRH FAMILY.
DR EMBL; AB066359; BAB83983.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Amidation; Hormone; signal.
FT SIGNAL 1 23
FT CHAIN 24 33
FT CHAIN 37 85
SQ SEQUENCE 85 AA; 9593 MW; 73B102A23528AA02 CRC64;
PEPTIDE.
GONADOTROPIN-RELEASING HORMONE ASSOCIATED
POTENTIAL.
CHICKEN-II-TYPE GONADOTROPIN-RELEASING
HORMONE
GONADOTROPIN-RELEASING HORMONE ASSOCIATED
PEPTIDE.

Query Match 95.9%; Score 70; DB 13; Length 85;
Best Local Similarity 90.0%; Pred. No. 0.0058;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db :|||||
24 QHWSHGWPY 33

RESULT 4
Q9PT25 PRELIMINARY; PRT; 86 AA.
AC Q9PT25;
DT 01-MAY-2000 (TREMELrel. 13, Created)
DT 01-MAY-2000 (TREMELrel. 13, Last sequence update)
DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)
DE Chicken-II type gonadotropin-releasing hormone (Gonadoliberin) (GnRH)
(LH-RH) (Luliberin).
GN CGNRH-II.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Ovary;
RX MEDLINE=20084414; PubMed=10619396;
RA von Schalburg K.R., Harrower W.L., Sherwood N.M.;
RT "Regulation and expression of GnRH in salmon embryo and gonad.";
RL Mol. Cell. Endocrinol. 157:41-54(1999).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GnRH FAMILY.
DR EMBL; AF125973; AAF08687.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 86 AA; 9811 MW; D6F0A3PD4BDFC257 CRC64;

Query Match 95.9%; Score 70; DB 13; Length 86;
Best Local Similarity 90.0%; Pred. No. 0.0059;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db :|||||
25 QHWSHGWPY 34

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RESULT 5
Q9PW69 ID Q9PW69 PRELIMINARY; PRT; 86 AA.
AC Q9PW69;
DT 01-MAY-2000 (TREMBlrel. 13, Created)
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone II precursor (Gonadoliberin) (GNRH)
DE (LH-RH) (Luliberin).
OS Typhlonectes natans (Rubber eel).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Gymnophiona; Caeciliidae; Typhlonectes.
CX NCBI_TaxID=8456;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Ebersole T.U., Goetz F.W., Boyd S.K.;
RT "Cloning of chicken II (cII) GnRH cDNA from the brain of a caecilian
RT amphibian, Typhlonectes natans."
RL Submitted (JUL-1999) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF167558; AAD48032.1;
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
SQ SEQUENCE 86 AA; 9788 MW; 2A02299F73B3720A CRC64;

Query Match 95.9%; Score 70; DB 13; Length 86;
Best Local Similarity 90.0%; Pred. No. 0.0059;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYGP 10
Db 25 QHWSHGWP 34

RESULT 6
Q8QF08 ID Q8QF08 PRELIMINARY; PRT; 86 AA.
AC Q8QF08;
DT 01-JUN-2002 (TREMBlrel. 21, Created)
DT 01-JUN-2002 (TREMBlrel. 21, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE CII gonadotropin releasing hormone (Gonadoliberin) (GNRH) (LH-RH)
DE (Luliberin).
OS Brachydanio rerio (zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
CX NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Whitlock K.E., Gopinath A., Tseng A.L., Boyce M.L.;
RT "Characterization of gonadotropin releasing hormone (GNRH) expression
RT in the juvenile zebrafish Danio rerio."
RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AY094357; AAM15717.1;
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.

Query Match 95.9%; Score 70; DB 13; Length 86;
Best Local Similarity 90.0%; Pred. No. 0.0059;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYGP 10
Db 25 QHWSHGWP 34

RESULT 6
Q8QF08 ID Q8QF08 PRELIMINARY; PRT; 86 AA.
AC Q8QF08;
DT 01-JUN-2002 (TREMBlrel. 21, Created)
DT 01-JUN-2002 (TREMBlrel. 21, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE CII gonadotropin releasing hormone (Gonadoliberin) (GNRH) (LH-RH)
DE (Luliberin).
OS Brachydanio rerio (zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
CX NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Whitlock K.E., Gopinath A., Tseng A.L., Boyce M.L.;
RT "Characterization of gonadotropin releasing hormone (GNRH) expression
RT in the juvenile zebrafish Danio rerio."
RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AB047326; BAB72183.1;
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
SQ SEQUENCE 86 AA; 9635 MW; F7A4643016307D05 CRC64;

Query Match 95.9%; Score 70; DB 13; Length 86;
Best Local Similarity 90.0%; Pred. No. 0.0059;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWYGP 10
Db 25 QHWSHGWP 34

RESULT 8
Q8AW16 ID Q8AW16 PRELIMINARY; PRT; 86 AA.
AC Q8AW16;
DT 01-MAR-2003 (TREMBlrel. 23, Created)
DT 01-MAR-2003 (TREMBlrel. 23, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
DE Chicken-II-type gonadotropin-releasing hormone precursor.
DE Chicken-II-type gonadotropin-releasing hormone precursor.
OS Cyprinus carpio (Common carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;

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[illegible]

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RA Okubo K., Suetake H., Aida K.;
RT "A splicing variant for the prepro-mammalian gonadotropin-releasing
RT hormone (prepro-mGnRH) mRNA is present in the brain and various
RT peripheral tissues of the Japanese eel.";
RL Zool. Sci. 16:645-651(1999)
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC -1- SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR ENBL; AF026990; BAA82609.1; -.
DR ENBL; AB026992; BAA83598.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 24 POTENTIAL.
FT CHAIN 25 34 CGNRH-II.
FT CHAIN 35 87 GNRH ASSOCIATED PEPTIDE.
SQ SEQUENCE 87 AA; 9837 MW; 6B24DE452338B48A CRC64;

Query Match 95.9%; Score 70; DB 13; Length 87;
Best Local Similarity 90.0%; Pred. No. 0.0059;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 25 QHWSHGWPY 34

RESULT 12
Q9TSI3 PRELIMINARY; PRT; 107 AA.
AC Q9TSI3
DT 01-MAY-2000 (TREMBlrel. 13, Created)
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Chicken luteinizing hormone-releasing hormone II (Gonadoliberein)
DE (Gonadotropin-releasing hormone) (GNRH) (LH-RH) (Luliberin)
DE (Fragment).
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
OC Cercopitheidae; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RA Adler L.A., Sherwood N.M., Grendell R.L., Golos T.G., Terasawa E.;
RT "cDNA of a second form of luteinizing hormone releasing, chicken LHRH-
RT II, isolated from the non-human primate brain (Abstract 632.8).";
RL Abstr. - Soc. Neurosci. 24:1607-1607(1998).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC -1- SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR ENBL; AF04307; AAD13775.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
FT NON_TER 107 107
SQ SEQUENCE 107 AA; 11823 MW; FACEE52703C3B1D CRC64;

Query Match 95.9%; Score 70; DB 6; Length 107;
Best Local Similarity 90.0%; Pred. No. 0.0073;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 25 QHWSHGWPY 34

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RESULT 13
Q97655 PRELIMINARY; PRT; 114 AA.
AC Q97655
DT 01-MAY-1999 (TREMBlrel. 10, Created)
DT 01-MAY-1999 (TREMBlrel. 10, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone II (Gonadoliberein) (GNRH) (LH-RH)
DE (Luliberin).
GN GNRH2.
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
OC Cercopitheidae; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RA White R.B., Urbanski H.F., Fernald R.D.;
RT "A second gene for gonadotropin-releasing hormone is expressed in the
RT rhesus macaque (Abstract #632.18).";
RL Abstr. - Soc. Neurosci. 24:1609-1609(1998).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC -1- SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF097356; AAD09106.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 114 AA; 12533 MW; 8B70D690D5BD5103 CRC64;

Query Match 95.9%; Score 70; DB 6; Length 114;
Best Local Similarity 90.0%; Pred. No. 0.0078;
Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 25 QHWSHGWPY 34

RESULT 14
Q9W7G0 PRELIMINARY; PRT; 33 AA.
AC Q9W7G0
DT 01-NOV-1999 (TREMBlrel. 12, Created)
DT 01-NOV-1999 (TREMBlrel. 12, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone (Gonadoliberein) (GNRH) (LH-RH)
DE (Luliberin) (Fragment).
GN GNRH2.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=99312119; PubMed=10385393;
RA Von Schalburg K.R., Sherwood N.M.;
RT "regulation and expression of gonadotropin-releasing hormone gene
RT differs in brain and gonads in rainbow trout.";
RL Endocrinology 140:3012-3024(1999).
RN [2]
RP SEQUENCE FROM N.A.
RA von Schalburg K.R., Sherwood N.M.;
RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC -1- SIMILARITY).

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CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF110593; AAD43463.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
FT NON_TER 33
SQ SEQUENCE 33 AA; 3668 MW; 099C825E4A7A2A3BB CRC64;

Query Match 76.7%; Score 56; DB 13; Length 33;
Best Local Similarity 70.0%; Pred. No. 0.23;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 24 QHWSYGLWPG 33

RESULT 15
Q9PT34 PRELIMINARY; PRT; 33 AA.
AC Q9PT34;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone (Gonadoliberin) (GNRH) (LH-RH)
DE (Luliberin) (Fragment).
GN GNRH.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=99312119; PubMed=10385393;
RA von Schalburg K.R., Sherwood N.M.;
RT "Regulation and expression of gonadotropin-releasing hormone gene differs in brain and gonads in rainbow trout.";
RL Endocrinology 140:3012-3024(1999).
RN [2]
RP SEQUENCE FROM N.A.
RA von Schalburg K.R., Sherwood N.M.;
RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF110533; AAD43461.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002047; AKH.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00256; AKH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
FT NON_TER 33
SQ SEQUENCE 33 AA; 3741 MW; 1FE1535E742B7EBB CRC64;

Query Match 76.7%; Score 56; DB 13; Length 33;
Best Local Similarity 70.0%; Pred. No. 0.23;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 24 QHWSYGLWPG 33

RESULT 16

Q90W09 PRELIMINARY; PRT; 54 AA.
AC Q90W09;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone precursor II isoform D (Gonadotropin-releasing hormone precursor II isoform C) (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE=Testis;
RA Uzbeckova S., Ferriere F., Guiguen Y., Bailhache T., Breton B., Lareyre J.J.;
RT "Stage-dependent and alternative splicing of sgnsh messengers in rainbow trout testis during spermatogenesis.";
RL Mol. Reprod. Dev. 59:1-10(2001).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF269107; AAK54679.1; -.
DR EMBL; AF269106; AAK54678.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 54 AA; 5963 MW; 06BF365F658E08B7 CRC64;

Query Match 76.7%; Score 56; DB 13; Length 54;
Best Local Similarity 70.0%; Pred. No. 0.37;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 24 QHWSYGLWPG 33

RESULT 17
Q90ZE1 PRELIMINARY; PRT; 62 AA.
AC Q90ZE1;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Pre-pro-GNRH-I protein (Gonadoliberin) (Gonadotropin-releasing hormone) (LH-RH) (Luliberin) (Fragment).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RA Uzbeckova S., Ferriere F., Breton B.;
RL Submitted (FEB-2000) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF231728; AAK82957.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002047; AKH.
DR InterPro; IPR002012; GNRH.

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DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00256; AKH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
FT NON_TER 1
FT NON_TER 62
FT NON_TER 62
SQ SEQUENCE 62 AA; 7018 MW; E388AAAS7E96B8DC CRC64;

Query Match 76.7%; Score 56; DB 13; Length 62;
Best Local Similarity 70.0%; Pred. No. 0.42;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 6 QHWSYGLWPG 15

RESULT 18
Q7TLL1 PRELIMINARY; PRT; 68 AA.
AC Q7TLL1
DT 01-OCT-2003 (TrEMBLrel. 25, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Gonadotropin-releasing hormone (Fragment).
OS Odontesthes bonariensis.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Atheriniformes; Atherinoidae; Atherinidae; Atherinopsinae;
OC Odontesthes.
OC NCBI_TaxID=219752;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Guilgur L.G., Miranda L.A., Somoza G.M.;
RT "Characterization of three GNRH cDNA sequences in the pejerrey fish
RL Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY323198; AAP84608.1; -.
FT NON_TER 1
FT NON_TER 1
SQ SEQUENCE 68 AA; 7717 MW; FFA92A3AD5211AAA CRC64;

Query Match 76.7%; Score 56; DB 13; Length 68;
Best Local Similarity 70.0%; Pred. No. 0.46;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 QHWSYGLWPG 10

RESULT 19
Q92094 PRELIMINARY; PRT; 82 AA.
AC Q92094
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone precursor (Gonadoliberin) (GNRH) (LH-
DE RH) (Luliberin).
GN PREPRO-GNRH-I.
OS Oncorhynchus nerka (Sockeye salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OC NCBI_TaxID=8023;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Nikko; TISSUE=Brain;
RA Ashihara M., Suzuki M., Kubokawa K., Yoshiura Y., Kobayashi M.,
RA Urano A., Aida K.;

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RT "Two different precursor genes for the salmon-type gonadotropin-
RT releasing hormone exist in salmonids.";
RL J. Mol. Endocrinol. 15:1-9(1995).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; D31868; BAA06666.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002047; AKH.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00256; AKH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1
FT CHAIN 24
FT CHAIN 33
FT CHAIN 37
FT CHAIN 82
SQ SEQUENCE 82 AA; 9126 MW; C64044EA521B2B8B CRC64;

Query Match 76.7%; Score 56; DB 13; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.56;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 24 QHWSYGLWPG 33

RESULT 20
Q90VY3 PRELIMINARY; PRT; 82 AA.
AC Q90VY3
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone precursor II isoform B2 (Gonadotropin-
DE releasing hormone precursor II isoform A) (Gonadotropin-releasing
DE hormone precursor II isoform B1) (Gonadoliberin) (GNRH) (LH-RH)
DE (Luliberin).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OC NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RX MEDLINE=21232987; PubMed=11335940;
RA Uzbekova S., Ferriere F., Guiguen Y., Bailhache T., Breton B.,
RA Lareyre J.J.;
RT "Stage-dependent and alternative splicing of sGNRH messengers in
RT rainbow trout testis during spermatogenesis.";
RL Mol. Reprod. Dev. 59:1-10(2001).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF269105; AAK34677.1; -.
DR EMBL; AF269103; AAK34675.1; -.
DR EMBL; AF269104; AAK34676.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 82 AA; 9171 MW; 8053F4F23B115408 CRC64;

Query Match 76.7%; Score 56; DB 13; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.56;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

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QY 1 EHWSHGWYFG 10
:|||||
Db 24 QHWSYGLWPG 33

RESULT 21
Q9W7G1 PRELIMINARY; PRT; 82 AA.

AC Q9W7G1;
DT 01-NOV-1999 (TrEMBLrel. 12, Created)
DT 01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone (Gonadoliberin) (GNRH) (LH-RH)
DE (Laliberin).
GN GNRH.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=99312119; PubMed=10385393;
RA Von Schalburg K.R., Sherwood N.M.;
RT "Regulation and expression of gonadotropin-releasing hormone gene differs in brain and gonads in rainbow trout.";
RL Endocrinology 140:3012-3024 (1999).
RN [2]
RP SEQUENCE FROM N.A.
RA von Schalburg K.R., Sherwood N.M.;
RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=21232987; PubMed=11335940;
RA Uzbekova S., Ferriere F., Guiguen Y., Bailhache T., Breton B., Lareyre J.J.;
RT "Stage-dependent and alternative splicing of sGnRH messengers in rainbow trout testis during spermatogenesis.";
RL Mol. Reprod. Dev. 59:1-10 (2001).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF110992; AAD3462.1; -.
DR EMBL; AF269108; AAK54680.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002047; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 82 AA; 9232 MW; 7595B4FC65FDFD6 CRC64;

Query Match 76.7%; Score 56; DB 13; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.56;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYFG 10
:|||||
Db 24 QHWSYGLWPG 33

RESULT 22
Q9I8P9 PRELIMINARY; PRT; 82 AA.

AC Q9I8P9;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Pro-sGnRH-II (Gonadoliberin) (Gonadotropin-releasing hormone) (LH-RH)

DE (Laliberin).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Ferriere F., Bailhache T., Jégo P.;
RT "Oncorhynchus mykiss sGnRH-II cDNA in the brain.";
RL Submitted (FEB-2000) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF232123; AAF91281.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 82 AA; 9203 MW; 8053F4F221A0FF08 CRC64;

Query Match 76.7%; Score 56; DB 13; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.56;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYFG 10
:|||||
Db 24 QHWSYGLWPG 33

RESULT 23
Q9I8Q0 PRELIMINARY; PRT; 82 AA.

ID Q9I8Q0
AC Q9I8Q0;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Pro-sGnRH-I (Gonadoliberin) (Gonadotropin-releasing hormone) (LH-RH)
DE (Laliberin).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Ferriere F., Bailhache T., Jégo P.;
RT "Oncorhynchus mykiss sGnRH-I cDNA from brain.";
RL Submitted (FEB-2000) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF232122; AAF91280.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002047; AKH.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00256; AKH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 82 AA; 9198 MW; 7595A0B89656A69 CRC64;

Query Match 76.7%; Score 56; DB 13; Length 82;
Best Local Similarity 70.0%; Pred. No. 0.56;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Oy 1 EHWSHGWYPG 10
:||||:|
Db 24 QHWSYGLPG 33

RESULT 24

Q9PSY9 PRELIMINARY; PRT; 88 AA.
AC Q9PSY9
DT 01-MAY-2000 (TREMBlrel. 13, Created)
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE SGRH (Gonadoliberin) (Gonadotropin-releasing hormone) (LH-RH)
DE (Luliberin) (Fragment).
OS Sparus aurata (Gilthead sea bream).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
OC Sparidae; Sparus.
OX NCBI_TaxID=8175;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-Ovary;
RA Nabissi M.;
RL Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF046799; AAD02425.1; .
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR02012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
KW NON_TER 88
FT SEQUENCE 88 AA; 9788 MW; F7E868C2FBDFl9F CRC64;
SQ SEQUENCE 88 AA; 9788 MW; F7E868C2FBDFl9F CRC64;

RESULT 26

Q8AWF6 PRELIMINARY; PRT; 90 AA.
AC Q8AWF6
DT 01-MAR-2003 (TREMBlrel. 23, Created)
DT 01-MAR-2003 (TREMBlrel. 23, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
DE Gonadotropin-releasing hormone III precursor.
GN GNRH3.
OS Oreochromis mossambicus (Mozambique tilapia) (Tilapia mossambica).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidae;
OC Cichlidae; Oreochromis.
OX NCBI_TaxID=8127;
RN [1]
RP SEQUENCE FROM N.A.
RA Molina A.I., Pellegrini E., Baihache T., Martial J.A., Muller M.;
RT "Cloning and brain expression analysis of the tilapia salmon type GNRH".
RL Submitted (OCT-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY167989; AAO11648.1; .
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR02012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Signal.
FT SIGNAL 1 33
SQ SEQUENCE 90 AA; 10083 MW; B3637E3839A53A4E CRC64;

Query Match 76.7%; Score 56; DB 13; Length 88;
Best Local Similarity 70.0%; Pred. No. 0.6;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Oy 1 EHWSHGWYPG 10
:||||:|
Db 24 QHWSYGLPG 33

RESULT 25

Q8UW82 PRELIMINARY; PRT; 90 AA.
AC Q8UW82
DT 01-MAR-2002 (TREMBlrel. 20, Created)
DT 01-MAR-2002 (TREMBlrel. 20, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Salmon-type gonadotropin-releasing hormone precursor (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).
OS Verasper moseri (Barfin flounder).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC Pleuronectoidei; Pleuronectidae; Verasper.
OX NCBI_TaxID=98923;
RN [1]
RP SEQUENCE FROM N.A.
RA Amano M.;
RT "Molecular cloning of three cDNAs encoding GNRH in the brain of barfin flounder".
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AB066358; BAB83982.1; .

DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR02012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 23
FT CHAIN 24 33
FT CHAIN 37 90
FT CHAIN 37 90
FT CHAIN 37 90
SQ SEQUENCE 90 AA; 10090 MW; 5BFD01586CEABC9D CRC64;

Query Match 76.7%; Score 56; DB 13; Length 90;

Best Local Similarity 70.0%; Pred. No. 0.61;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Oy 1 EHWSHGWYPG 10
:||||:|
Db 24 QHWSYGLPG 33

RESULT 27

Q7ZT00 PRELIMINARY; PRT; 90 AA.
AC Q7ZT00
DT 01-JUN-2003 (TREMBlrel. 24, Created)
DT 01-JUN-2003 (TREMBlrel. 24, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
DE Salmon-type gonadotropin-releasing hormone precursor.
GN GNRH3.
OS Salmon-type gonadotropin-releasing hormone precursor.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidae;
OC Cichlidae; Oreochromis.
OX NCBI_TaxID=8127;
RN [1]
RP SEQUENCE FROM N.A.
RA Molina A.I., Pellegrini E., Baihache T., Martial J.A., Muller M.;
RT "Cloning and brain expression analysis of the tilapia salmon type GNRH".
RL Submitted (OCT-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY167989; AAO11648.1; .
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR02012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Signal.
FT SIGNAL 1 33
SQ SEQUENCE 90 AA; 10083 MW; B3637E3839A53A4E CRC64;

Query Match 76.7%; Score 56; DB 13; Length 90;

Best Local Similarity 70.0%; Pred. No. 0.61;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Oy 1 EHWSHGWYPG 10
:||||:|
Db 24 QHWSYGLPG 33

RESULT 27

Q7ZT00 PRELIMINARY; PRT; 90 AA.
AC Q7ZT00
DT 01-JUN-2003 (TREMBlrel. 24, Created)
DT 01-JUN-2003 (TREMBlrel. 24, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
DE Salmon-type gonadotropin-releasing hormone precursor.
GN GNRH3.

OS Oreochromis niloticus (Nile tilapia) (Tilapia nilotica).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidae;
 OC Cichlidae; Oreochromis.
 OX NCBI_TaxID=8128;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Sato H., Sakuma Y., Parhar I.S.;
 RT "Molecular cloning of three kinds of GnRH genes and 5' untranslated
 regions in tilapia (Oreochromis niloticus).";
 RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
 [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RA Parhar I.S., Ogawa S., Sakuma Y.;
 RT "Molecular cloning of tilapia (Oreochromis niloticus) GnRH cDNA.";
 RL Submitted (FEB-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB104863; BAC65156.1; -;
 DR EMBL; AB101667; BAC56851.1; -;
 DR GO; GO:0005576; C:extracellular; IEA.
 DR GO; GO:0005179; F:hormone activity; IEA.
 DR GO; GO:0007275; P:development; IEA.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 DR Signal.
 KW SIGNAL
 FT CHAIN 1 23 Potential.
 FT CHAIN 24 33 salmon-type gonadotropin-releasing
 hormone.
 FT CHAIN 34 46 GnRH-associated peptide.
 FT CHAIN 47 73 GnRH-associated peptide.
 FT SEQUENCE 90 AA; 10083 MW; B3637E3839A53A4E CRC64;
 SQ SEQUENCE 90 AA; 10083 MW; B3637E3839A53A4E CRC64;
 Query Match 76.7%; Score 56; DB 13; Length 90;
 Best Local Similarity 70.0%; Pred. No. 0.61; Mismatches 2; Indels 0; Gaps 0;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWPFG 10
 DB 24 QHWSYGLWPG 33
 RESULT 28
 Q9DDDB PRELIMINARY; PRT; 94 AA.
 AC Q9DDDB;
 DT 01-MAR-2001 (TREMBlrel. 16, Created)
 DT 01-MAR-2001 (TREMBlrel. 16, Last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
 DE Gonadotropin releasing hormone precursor (Gonadoliberin) (GnRH) (LH-
 RH) (Luliberin).
 GN SGNRH.
 OS Brachydanio rerio (Zebrafish) (Danio rerio).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
 OC Cyprinidae; Danio.
 OX NCBI_TaxID=7955;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RA Torgersen J., Nourizadeh-Lillabadi R., Husebye H., Liang M.R.,
 RA Alestrom P.;
 RT "Characterization and Functional Studies of the Zebrafish (Danio
 rerio) GnRH Gene.";
 RL Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.
 [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RA Husebye H.;
 RA Thesis (1997), Department of Food Science,
 RL Agricultural University of Norway, As, Norway.
 [3]

RP SEQUENCE FROM N.A.
 RA Husebye H.;
 RT "Characterization and Functional Studies of the Zebrafish (Danio
 rerio) GnRH Gene.";
 RL Thesis (1997), Department of Food Science,
 RL Agricultural University of Norway, Aas, Norway.
 [4]
 RP SEQUENCE FROM N.A.
 RA Torgersen J., Nourizadeh-Lillabadi R., Husebye H., Alestrom P.;
 RT "In Silico and In Situ Characterization of the Zebrafish (Danio rerio)
 GnRH III Gene.";
 RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
 SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO THE GnRH FAMILY.
 DR EMBL; AJ304429; CAC18539.1; -;
 DR EMBL; AF490354; AAL99294.1; -;
 DR GO; GO:0005576; C:extracellular; IEA.
 DR GO; GO:0005179; F:hormone activity; IEA.
 DR GO; GO:0007275; P:development; IEA.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 DR Amidation; Hormone; Signal.
 KW SIGNAL
 FT CHAIN 1 23
 FT CHAIN 24 33 GONADOTROPIN RELEASING HORMONE.
 FT CHAIN 37 94 GnRH ASSOCIATED PEPTIDE (GAP).
 FT SEQUENCE 94 AA; 10576 MW; D0101FF655A81726 CRC64;
 SQ SEQUENCE 94 AA; 10576 MW; D0101FF655A81726 CRC64;
 Query Match 76.7%; Score 56; DB 13; Length 94;
 Best Local Similarity 70.0%; Pred. No. 0.84; Mismatches 2; Indels 0; Gaps 0;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
 QY 1 EHWSHGWPFG 10
 DB 24 QHWSYGLWPG 33
 RESULT 29
 Q9DEHS PRELIMINARY; PRT; 94 AA.
 AC Q9DEHS;
 DT 01-MAR-2001 (TREMBlrel. 16, Created)
 DT 01-MAR-2001 (TREMBlrel. 16, Last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
 DE Salmon-type gonadotropin-releasing hormone (Gonadoliberin) (GnRH) (LH-
 RH) (Luliberin).
 GN SGNRH.
 OS Carassius auratus (Goldfish).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
 OC Cyprinidae; Carassius.
 OX NCBI_TaxID=7957;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Suetake H.;
 RT "Two salmon gonadotropin-releasing hormone genes and their
 differential expressions in the goldfish Carassius auratus.";
 RL Fisheries Sci. 66:49-57(2000).
 CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
 SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO THE GnRH FAMILY.
 DR EMBL; AB017272; BAB18905.1; -;
 DR GO; GO:0005576; C:extracellular; IEA.
 DR GO; GO:0005179; F:hormone activity; IEA.
 DR GO; GO:0007275; P:development; IEA.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 DR Amidation; Hormone.
 KW Amidation; Hormone.
 SQ SEQUENCE 94 AA; 10545 MW; 1EEA5ED54EC0468B CRC64;
 Query Match 76.7%; Score 56; DB 13; Length 94;

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Best Local Similarity 70.0%; Pred. No. 0.64; Mismatches 2; Indels 1; Gaps 0;
Matches 7; Conservative 0;

Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGLWPG 33

RESULT 30
O8UUK6 PRELIMINARY; PRT; 94 AA.
AC Q8UUK6
DT 01-MAR-2002 (T-EMBLrel. 20, Created)
DT 01-MAR-2002 (T-EMBLrel. 20, Last sequence update)
DT 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)
DE Prepro-salmon-type gonadotropin-releasing hormone precursor
DE (Gonadoliberein) (GNRH) (LH-RH) (Luliberin).
GN SGNRH.
OS Scleropages jardinii (Australian bonytongue).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Osteoglossomorpha;
OC Osteoglossiformes; Osteoglossidae; Scleropages.
OX NCBI_TaxID=113541;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA MEDLINE=21560666; PubMed=11703078;
RX Okubo K., Aida K.;
RT "Gonadotropin-releasing hormones (GNRHs) in a primitive teleost, the
RT atwana: phylogenetic evidence that three paralogous lineages of GNRH
RT occurred prior to the emergence of teleosts.";
RL Gen. Comp. Endocrinol. 124:125-133(2001).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AB047325; BAB72182.1;
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
DR AMIAdation; Hormone; Signal.
FT SIGNAL 1 23
FT CHAIN 24 36
FT SEQUENCE 94 AA; 10541 MW; 779050E92FA0D66 CRC64;

Query Match 76.7%; Score 56; DB 13; Length 94;
Best Local Similarity 70.0%; Pred. No. 0.64;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGLWPG 33

RESULT 31
Q9DEH6 PRELIMINARY; PRT; 94 AA.
AC Q9DEH6
DT 01-MAR-2001 (T-EMBLrel. 16, Created)
DT 01-MAR-2001 (T-EMBLrel. 16, Last sequence update)
DT 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)
DE Salmon-type gonadotropin-releasing hormone (Gonadoliberein) (GNRH) (LH-
DE RH) (Luliberin).
GN SGNRH.
OS Carassius auratus (Goldfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Carassius.
OX NCBI_TaxID=7957;
RN [1]

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RP SEQUENCE FROM N.A.
RA Sustake H.;
RT two salmon gonadotropin-releasing hormone genes and their
RT differential expressions in the goldfish Carassius auratus.";
RL Fisheries Sci. 56:49-57(2000).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AB017271; BAB18904.1;
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 94 AA; 10573 MW; 0141745425917E85 CRC64;

Query Match 76.7%; Score 56; DB 13; Length 94;
Best Local Similarity 70.0%; Pred. No. 0.64;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGLWPG 33

RESULT 32
Q8JHC3 PRELIMINARY; PRT; 94 AA.
AC Q8JHC3
DT 01-OCT-2002 (T-EMBLrel. 22, Created)
DT 01-OCT-2002 (T-EMBLrel. 22, Last sequence update)
DT 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)
DE Salmon-type gonadotropin-releasing hormone.
OS Cyprinus carpio (Common carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Cyprinus.
OX NCBI_TaxID=7962;
RN [1]
RP SEQUENCE FROM N.A.
RA Li S., Hu W., Wang Y., Zhu Z.;
RT "Gene clone and promoter functional analysis of sGNRH.";
RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF521130; AAM7660.1;
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
SQ SEQUENCE 94 AA; 10445 MW; C3DD3F7C2A852A80 CRC64;

Query Match 76.7%; Score 56; DB 13; Length 94;
Best Local Similarity 70.0%; Pred. No. 0.64;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 24 QHWSYGLWPG 33

RESULT 33
Q804C1 PRELIMINARY; PRT; 94 AA.
AC Q804C1
DT 01-JUN-2003 (T-EMBLrel. 24, Created)
DT 01-JUN-2003 (T-EMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (T-EMBLrel. 25, Last annotation update)
DE Salmon-type gonadotropin-releasing hormone precursor.
GN GNRH.
OS Cyprinus carpio (Common carp).

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RESULT 37

Q8JH60 PRELIMINARY; PRT; 86 AA.
 AC Q8JH60;
 DT 01-OCT-2002 (TrEMBLrel. 22, Created)
 DT 01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
 DE Gonadotropin-releasing hormone.
 OS Alosa sapidissima (American shad).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Clupeomorpha; Clupeidae;
 OC Alosa.
 OX NCBI_TaxID=34773;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Abraham E., Gohlif Y., Zohar Y.;
 RT "American shad (Alosa sapidissima) hrGnRH sequence.";
 RL Submitted (AUG-2002) to the EMBL/GenBank/DBJ databases.
 DR ENBL; AFS36381; AAN04492.1;
 DR GO; GO:0005576; C:extracellular; IEA.
 DR GO; GO:0005179; F:hormone activity; IEA.
 DR GO; GO:0007275; P:development; IEA.
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 SQ SEQUENCE 86 AA; 9554 MW; 8E4921F3CF23350E3 CRC64;

Query Match 65.8%; Score 48; DB 13; Length 86;
 Best Local Similarity 70.0%; Pred. No. 8.1;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EWSHGWPYGP 10

:|||||

Db 23 QWSHGLSPG 32

RESULT 38

O27385 PRELIMINARY; PRT; 319 AA.
 AC O27385;
 DT 01-JAN-1998 (TrEMBLrel. 05, Created)
 DT 01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
 DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
 DE Conserved protein.
 GN MTH1330.
 OS Methanobacterium thermoautotrophicum.
 OC Archaea; Euryarchaeota; Methanobacteria; Methanobacteriales;
 OC Methanobacteriaceae; Methanothermobacter.
 OX NCBI_TaxID=187420;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Delta H;
 RX MEDLINE=98037514; PubMed=9371463;
 RA Smith D.R., Doucette-Stamm L.A., DeLoughery C., Lee H.-M., Dubois J.,
 RA Aldredge T., Bashirzadeh R., Blakely D., Cook R., Gilbert K.,
 RA Harrison D., Hoang L., Keagle P., Lumm W., Pothier B., Qiu D.,
 RA Spadafora R., Vicare R., Wang Y., Wierzbowski J., Gibson R.,
 RA Jiwani N., Caruso A., Bush D., Safer H., Patwell D., Prabhakar S.,
 RA McQuigall S., Shimer G., Goyal A., Pietrowski S., Church G.M.,
 RA Daniels C.J., Mao J.-I., Rice P., Noelling J., Reeve J.N.;
 RT "Complete genome sequence of Methanobacterium thermoautotrophicum
 J. Bacteriol. 179:7135-7155(1997)."
 DR EMBL; AE000896; AAB85808.1; -;
 DR PIR; A69043; H69043
 DR GO; GO:0016021; C:integral to membrane; IEA.
 DR GO; GO:0005524; F:ATP binding; IEA.
 DR GO; GO:0008233; F:peptidase activity; IEA.
 DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
 DR InterPro; IPR005074; Peptidase_C39.
 DR Pfam; PF03412; Peptidase_C39; 1.
 KW Complete proteome.
 SQ SEQUENCE 319 AA; 35602 MW; AB65763CEFFCC6C47 CRC64;

Query Match 65.8%; Score 48; DB 13; Length 86;
 Best Local Similarity 70.0%; Pred. No. 8.1;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EWSHGWPYGP 10

:|||||

Db 23 QWSHGLSPG 32

Query Match 65.1%; Score 47.5; DB 17; Length 319;
 Best Local Similarity 87.5%; Pred. No. 35;
 Matches 7; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HWSHGWPY 9

:|||||

Db 256 HW-HGWYP 262

RESULT 39

O27690 PRELIMINARY; PRT; 321 AA.
 AC O27690;
 DT 01-JAN-1998 (TrEMBLrel. 05, Created)
 DT 01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
 DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
 DE Conserved protein.
 GN MTH1653.
 OS Methanobacterium thermoautotrophicum.
 OC Archaea; Euryarchaeota; Methanobacteria; Methanobacteriales;
 OC Methanobacteriaceae; Methanothermobacter.
 OX NCBI_TaxID=187420;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Delta H;
 RX MEDLINE=98037514; PubMed=9371463;
 RA Smith D.R., Doucette-Stamm L.A., DeLoughery C., Lee H.-M., Dubois J.,
 RA Aldredge T., Bashirzadeh R., Blakely D., Cook R., Gilbert K.,
 RA Harrison D., Hoang L., Keagle P., Lumm W., Pothier B., Qiu D.,
 RA Spadafora R., Vicare R., Wang Y., Wierzbowski J., Gibson R.,
 RA Jiwani N., Caruso A., Bush D., Safer H., Patwell D., Prabhakar S.,
 RA McQuigall S., Shimer G., Goyal A., Pietrowski S., Church G.M.,
 RA Daniels C.J., Mao J.-I., Rice P., Noelling J., Reeve J.N.;
 RT "Complete genome sequence of Methanobacterium thermoautotrophicum
 J. Bacteriol. 179:7135-7155(1997)."
 DR EMBL; AE000924; AAB86125.1; -;
 DR PIR; A69088; A69088
 DR GO; GO:0016021; C:integral to membrane; IEA.
 DR GO; GO:0005524; F:ATP binding; IEA.
 DR GO; GO:0008233; F:peptidase activity; IEA.
 DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
 DR InterPro; IPR005074; Peptidase_C39.
 DR Pfam; PF03412; Peptidase_C39; 1.
 KW Complete proteome.
 SQ SEQUENCE 321 AA; 36003 MW; 3FED952C3B79DBB7 CRC64;

Query Match 65.1%; Score 47.5; DB 17; Length 321;
 Best Local Similarity 87.5%; Pred. No. 35;
 Matches 7; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HWSHGWPY 9

:|||||

Db 256 HW-HGWYP 264

RESULT 40

O15885 PRELIMINARY; PRT; 380 AA.
 AC O15885;
 DT 01-NOV-1996 (TrEMBLrel. 01, Created)
 DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
 DT 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
 DE Partial cDNA sequence, clone x529, unknown open reading frame;
 DE (Fragment).
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Fetal;

Query Match 65.1%; Score 47.5; DB 17; Length 321;
 Best Local Similarity 87.5%; Pred. No. 35;
 Matches 7; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 2 HWSHGWPY 9

:|||||

Db 256 HW-HGWYP 264

RA Chianmilikulchai N., Pasturaud P., Richard I., Auffray C.,
 RA Beckmann J.S.;
 RT "cDNA selection in the IGM2A region.";
 RL Submitted (Oct-1995) to the EMBL/GenBank/DBJ databases.
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Petal;
 RA Genethon;
 RL Submitted (DEC-1994) to the EMBL/GenBank/DBJ databases.
 RN [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Petal;
 RX MEDLINE=9535980; PubMed=7633422;
 RA Chianmilikulchai N., Pasturaud P., Richard I., Auffray C.,
 RA Beckmann J.S.;
 RT "A primary expression map of the chromosome 15q15 region containing
 the recessive form of limb-girdle muscular dystrophy (IGMD2A) gene.";
 RL Hum. Mol. Genet. 4:717-725(1995).
 DR EMBL; Z47043; CAA87105.1; -;
 FT NON_TER 1
 FT NON_TER 380
 SQ SEQUENCE 380 AA; 41627 MW; 6F5BF18C94D8FF55 CRC64;

Query Match 64.4%; Score 47; DB 4; Length 380;
 Best Local Similarity 66.7%; Pred. No. 49;
 Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYP 9

Db 239 DHWSQGWAP 247

RESULT 41

Q9H6S2 PRELIMINARY; PRT; 818 AA.

AC Q9H6S2;
 DT 01-MAR-2001 (TrEMBLrel. 16, Created)
 DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
 DT 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
 DE Hypothetical protein FLJ21936 (Fragment).
 OS Homo sapiens (human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Kawabata A., Hikiji T., Kobatake N., Inagaki H., Ikema Y., Okamoto S.,
 RA Okitani R., Ota T., Suzuki Y., Obayashi M., Nishi T., Shibahara T.,
 RA Tanaka T., Nakamura Y., Isogai T., Sugano S.;
 RT "NEDO human cDNA sequencing project.";
 RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AK025589; BAB15181.1; -;
 KW Hypothetical protein.
 FT NON_TER 818
 SQ SEQUENCE 818 AA; 90684 MW; 19933B51DA2E42EB CRC64;

Query Match 64.4%; Score 47; DB 4; Length 818;
 Best Local Similarity 66.7%; Pred. No. 1.le+02;
 Matches 6; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYP 9

Db 587 DHWSQGWAP 595

RESULT 42

Q8T8D2 PRELIMINARY; PRT; 89 AA.

AC Q8T8D2;
 DT 01-JUN-2002 (TrEMBLrel. 21, Created)
 DT 01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
 DT 01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
 DE GnRH-related peptide.

GN OCTGNHRP.
 OS Octopus vulgaris (Octopus).
 OC Eukaryota; Metazoa; Mollusca; Cephalopoda; Coleoidea; Neocoleoidea;
 OC Octopodiformes; Octopoda; Incirrata; Octopodidae; Octopus.
 OX NCBI_TaxID=6645;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=21881366; PubMed=11883942;
 RA Iwakoshi E., Takawa-Kuroda K., Fujisawa Y., Hisada M., Ukena K.,
 RA Teutsui K., Minakata H.;
 RT "Isolation and Characterization of a GnRH-like Peptide from Octopus
 vulgaris.";
 RL Biochem. Biophys. Res. Commun. 291:1187-1193(2002).
 DR EMBL; AB037165; BAB86782.1; -;
 SQ SEQUENCE 89 AA; 9977 MW; 883D43937ABB3768 CRC64;

Query Match 63.0%; Score 46; DB 5; Length 89;
 Best Local Similarity 66.7%; Pred. No. 16;
 Matches 6; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 2 HWSHGWPY 10

Db 35 HFSNGWHPG 43

RESULT 43

Q8XSD0 PRELIMINARY; PRT; 437 AA.

AC Q8XSD0;
 DT 01-MAR-2002 (TrEMBLrel. 20, Created)
 DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
 DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
 DE Putative tail fiber protein (putative tail fiber protein of cryptic
 prophage CP-933P).
 DE prophage CP-933P).
 GN Z6027 OR ECS1808.
 OS Escherichia coli O157:H7.
 OC Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
 OC Enterobacteriaceae; Escherichia.
 OX NCBI_TaxID=83334;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=O157:H7 / EDL933 / ATCC 700927;
 RX MEDLINE=21074935; PubMed=1126551;
 RA Perna N.T., Plunkett G., Evans P.S., Gregor J., Kirkpatrick H.A.,
 RA Rose D.J., Mayhew G.F., Burland V., Mau B., Glasner J.D.,
 RA Posfai G., Hackett J., Klink S., Boutin A., Shao Y., Miller L.,
 RA Grobeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K.,
 RA Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C.,
 RA Welch R.A., Blattner F.R.;
 RT "Genome sequence of enterohaemorrhagic Escherichia coli O157:H7."
 RL Nature 409:529-533(2001).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=O157:H7 / RIMD 0509952;
 RX MEDLINE=21156231; PubMed=11258796;
 RA Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoyama K.,
 RA Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T.,
 RA Iida T., Takami H., Honda T., Sasaki G., Ogasawara N., Yasunaga T.,
 RA Kuhara S., Shiba T., Hattori M., Shinagawa H.;
 RT "Complete genome sequence of enterohaemorrhagic Escherichia coli
 O157:H7 and genomic comparison with a laboratory strain K-12.";
 RL DNA Res. 8:11-22(2001).
 DR EMBL; AB006458; AAK16943.1; -;
 DR EMBL; AP002556; BAB35231.1; -;
 DR FIR; H90854; H90854.
 DR InterPro; IPR008969; CarboxypepD_reg.
 DR InterPro; IPR008160; Collagen.
 DR Pfam; PF01391; Collagen; 2.
 KW Complete proteome.
 SQ SEQUENCE 437 AA; 44111 MW; 65D8914DF28DD31B CRC64;

Query Match 61.6%; Score 45; DB 16; Length 437;
 Best Local Similarity 61.7%; Pred. No. 1.le+02;

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Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 4 SHGWYFG 10
Db 377 SHGWFFG 383

RESULT 44
Q8XEG4 PRELIMINARY; PRT; 439 AA.
AC Q8XEG4;
DT 01-MAR-2002 (TrEMBLrel. 20, Created)
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Putative tail fiber protein of prophage CP-9330.
GN Z2147 OR ECS1123.
OS Escherichia coli O157:H7.
OC Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
OC Enterobacteriaceae; Escherichia.
OX NCBI_TaxID=83334;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=O157:H7 / EDL933 / ATCC 700927;
RX MEDLINE=21074935; PubMed=11206551;
RA Perna N.T., Plunkett G., Evans P.S., Gregor J., Kirkpatrick H.A.,
RA Rose D.J., Mayhew G.F., Boutin A., Shao Y., Miller L.,
RA Posfai G., Hackett J., Klink S., Lim A., Dimalanta E.T., Potamocis K.,
RA Grobeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamocis K.,
RA Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C.,
RA Welch R.A., Blattner F.R.;
RT "Genome sequence of enterohaemorrhagic Escherichia coli O157:H7."
RL Nature 409:529-533(2001).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=O157:H7 / RMD 0509952;
RX MEDLINE=21156231; PubMed=11258796;
RA Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoyama K.,
RA Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T.,
RA Iida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasunaga T.,
RA Kuhara S., Shiba T., Hattori M., Shinagawa H.;
RT "Complete genome sequence of enterohaemorrhagic Escherichia coli O157:H7 and genomic comparison with a laboratory strain K-12."
RL DNA Res. 8:11-22(2001).
DR EMBL; AE005350; AAG56213.1; -
DR EMBL; AP002554; BAB34546.1; -
DR PIR; A85719; A85719.
DR PIR; A85719; A85719.
DR InterPro; IPR008969; CarboxypepD_reg.
DR InterPro; IPR008160; Collagen.
DR Pfam; PF01391; Collagen; 2.
DR Complete proteome.
KW CONFLICT 407 407 G -> V (IN REF. 2).
SQ SEQUENCE 439 AA; 44312 MW; 03597DE67600F028 CRC64;

Query Match 61.6%; Score 45; DB 16; Length 439;
Best Local Similarity 85.7%; Pred. No. 1.1e+02;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 4 SHGWYFG 10
Db 379 SHGWFFG 385

RESULT 45
Q8XSA7 PRELIMINARY; PRT; 439 AA.
AC Q8XSA7;
DT 01-MAR-2002 (TrEMBLrel. 20, Created)
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Putative tail fiber protein (Putative tail fiber protein of prophage CP-9330).
GN Z3074 OR ECS2717.
OS Escherichia coli O157:H7.
OC Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
OC Enterobacteriaceae; Escherichia.
OX NCBI_TaxID=83334;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=O157:H7 / EDL933 / ATCC 700927;
RX MEDLINE=21074935; PubMed=11206551;
RA Perna N.T., Plunkett G., Evans P.S., Gregor J., Kirkpatrick H.A.,
RA Rose D.J., Mayhew G.F., Boutin A., Shao Y., Miller L.,
RA Posfai G., Hackett J., Klink S., Lim A., Dimalanta E.T., Potamocis K.,
RA Grobeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamocis K.,
RA Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C.,
RA Welch R.A., Blattner F.R.;
RT "Genome sequence of enterohaemorrhagic Escherichia coli O157:H7."
RL Nature 409:529-533(2001).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=O157:H7 / RMD 0509952;
RX MEDLINE=21156231; PubMed=11258796;
RA Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoyama K.,
RA Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T.,
RA Iida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasunaga T.,
RA Kuhara S., Shiba T., Hattori M., Shinagawa H.;
RT "Complete genome sequence of enterohaemorrhagic Escherichia coli O157:H7 and genomic comparison with a laboratory strain K-12."
RL DNA Res. 8:11-22(2001).
DR EMBL; AE005350; AAG56213.1; -
DR EMBL; AP002554; BAB34546.1; -
DR PIR; A85719; A85719.
DR PIR; A85719; A85719.
DR InterPro; IPR008969; CarboxypepD_reg.
DR InterPro; IPR008160; Collagen.
DR Pfam; PF01391; Collagen; 2.
DR Complete proteome.
KW CONFLICT 407 407 G -> V (IN REF. 2).
SQ SEQUENCE 439 AA; 44312 MW; 03597DE67600F028 CRC64;

Query Match 61.6%; Score 45; DB 16; Length 439;
Best Local Similarity 85.7%; Pred. No. 1.1e+02;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 4 SHGWYFG 10
Db 379 SHGWFFG 385

RESULT 46
Q93JN5 PRELIMINARY; PRT; 1333 AA.
AC Q93JN5;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Putative non-ribosomal peptide synthase.
GN VBSS.
OS Rhizobium leguminosarum (biovar viciae).
OC Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
OC Rhizobiaceae; Rhizobium/Agrobacterium group; Rhizobium.
OX NCBI_TaxID=387;
RN [1]
RP SEQUENCE FROM N.A.
RC Carter R.A.;
RT "Structure, function and regulation of the Rhizobium leguminosarum vbs genes, which specify the synthesis of the siderophore vibibactin."
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; A0315451; CAC48062.1; -
DR GO; GO:0003824; F:metabolism; IEA.
DR GO; GO:0008152; P:metabolism; IEA.
DR InterPro; IPR000873; AMP-bind.
DR InterPro; IPR001242; Condensatn.
DR InterPro; IPR006162; Peptidase.
DR InterPro; IPR006163; PP_bind.
DR Pfam; PF00501; AMP-binding; 1.

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DR Pfam; PF00568; Condensation; 1.
DR Pfam; PF00550; PP-binding; 1.
DR PRINTS; PR00184; AMP BINDING.
DR PROSITE; PS00075; ACP DOMAIN; 1.
DR PROSITE; PS00455; AMP BINDING; 1.
DR PROSITE; PS00012; PHOSPHOPANTETHEINE; 1.
KW Phosphopantetheine.
SQ SEQUENCE 1333 AA; 147537 MW; 7180746EDAB5DC7D CRC64;

Query Match 61.6%; Score 45; DB 2; Length 1333;
Best Local Similarity 85.7%; Pred. No. 3.3e+02;
Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EWSHGW 7
Db 494 EWSHGW 500

RESULT 47
Q9XDJ6 PRELIMINARY; PRT; 377 AA.
AC Q9XDJ6;
DT 01-NOV-1999 (TrEMBLrel. 12, Created)
DT 01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Putative glycosyl transferase.
GN WCFG.
OS Bacteroides fragilis.
OC Bacteria; Bacteroidetes; Bacteroides (class); Bacteroidales;
OC Bacteroidaceae; Bacteroides.
OX NCBI_TaxID=817;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=NCTC 9343;
RA MEDLINE=99307214; PubMed=10377135;
RX Comerck L.E., Coyne M.J., Tzianabos A.O., Pantosti A.,
RA Onderdonk A.B., Kasper D.L.;
RT "Analysis of a capsular polysaccharide biosynthesis locus of
RT Bacteroides fragilis.";
RL Infect. Immun. 67:3525-3532(1999).
DR EMBL; AF048749; AAD40719.1; -.
DR GO; GO:0016740; F:transferase activity; IEA.
DR GO; GO:0003058; P:biogenesis; IEA.
DR InterPro; IPR001296; Glyco_transf_1.
DR Pfam; PF00534; Glycob_transf_1; 1.
KW Transferase.
SQ SEQUENCE 377 AA; 43999 MW; B53EDDEA946D540F CRC64;

Query Match 60.3%; Score 44; DB 2; Length 377;
Best Local Similarity 83.3%; Pred. No. 1.3e+02;
Matches 5; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 3 WSHGWY 8
Db 113 WTHGWY 118

RESULT 48
Q8GDL7 PRELIMINARY; PRT; 415 AA.
AC Q8GDL7;
DT 01-MAR-2003 (TrEMBLrel. 23, Created)
DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE Orf4.
GN ORF4.
OS Photobacterium luminescens (Xenorhabdus luminescens).
OC Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
OC Enterobacteriaceae; Photobacterium.
OX NCBI_TaxID=29488;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=W14;

```

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RA Waterfield N.R., French-Constant R.H.;
RT "Genomic islands in the insect pathogen Photorhabdus.";
RL Trends Microbiol. 0:0-0(2003).
DR EMBL; AY144118; AAN64208.1; -.
SQ SEQUENCE 415 AA; 48343 MW; D1691D85246B8BAE CRC64;

Query Match 60.3%; Score 44; DB 2; Length 415;
Best Local Similarity 58.3%; Pred. No. 1.4e+02;
Matches 7; Conservative 1; Mismatches 0; Indels 4; Gaps 1;

Qy 2 HW----SHGWYP 9
Db 207 YWHSASHGWYP 218

RESULT 49
Q7USD7 PRELIMINARY; PRT; 602 AA.
AC Q7USD7;
DT 01-OCT-2003 (TrEMBLrel. 25, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Sodium/glucose cotransporter.
GN SGLT OR RB4564.
OS Rhodopirellula baltica.
OC Bacteria; Planctomycetes; Planctomycetacia; Planctomycetales;
OC Planctomycetaceae; Pirellula.
OX NCBI_TaxID=117;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=1.
RX MEDLINE=22735913; PubMed=12835416;
RA Gloeckner F.O., Kube M., Bauer M., Teeling H., Lombardot T.,
RA Ludwig W., Gade D., Beck A., Borzym K., Heitmann K., Rabus R.,
RA Schlesner H., Amann R., Reinhardt R.;
RT "Complete genome sequence of the marine planctomycete Pirellula sp.
RT strain 1.";
RL Proc. Natl. Acad. Sci. U.S.A. 100:8298-8303(2003).
DR EMBL; BX294140; CAD73860.1; -.
KW Complete proteome.
SQ SEQUENCE 602 AA; 65661 MW; 1E75E8E15604237B CRC64;

Query Match 60.3%; Score 44; DB 16; Length 602;
Best Local Similarity 75.0%; Pred. No. 2.1e+02;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 3 WSHGWYPG 10
Db 249 WWSGWYPG 256

RESULT 50
Q86D90 PRELIMINARY; PRT; 219 AA.
AC Q86D90;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Preprogonadotropin-releasing hormone 1 precursor.
OS Ciona intestinalis.
OC Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
OC Phlebobranchia; Clonidae; Ciona.
OX NCBI_TaxID=7719;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=22583575; PubMed=12697698;
RA Adams B.A., Tello J.A., Erchegyi J., Warby C., Hong D.J.,
RA Akinsanya K.O., Mackie G.O., Vale W., Rivier J.E., Sherwood N.M.;
RT "Six Novel Gonadotropin-Releasing Hormones Are Encoded as Triplets on
RT Each of Two Genes in the Protochordate, Ciona intestinalis.";
RL Endocrinology 144:1907-1919(2003).
DR EMBL; AY204706; AAP06793.1; -.
DR GO; GO:0005576; C:extracellular; IEA.

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DR GO; GO:00051179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPRO02012; GNRH.
DR Pfam; PF00446; GNRH; 2.
DR PROSITE; PS00473; GNRH; 3.
DR Signal;
FT SIGNAL.
FT 1 86 Potential.
FT CHAIN 88 gonadotropin-releasing hormone 3.
FT CHAIN 115 gonadotropin-releasing hormone 5.
FT CHAIN 138 gonadotropin-releasing hormone 6.
FT CHAIN 151 GnRH-associated peptide.
FT CHAIN 151 219
SEQUENCE 219 AA; 24970 MW; B8A0545882DCD8F7 CRC64;

Query March 58.9%; Score 43; DB 5; Length 219;
Best Local Similarity 60.0%; Pred. NO. 1.le-02;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
||| |
||| |
Db 136 QHWSKGYSFG 147

Search completed: March 2, 2004, 19:27:47
Job time : 55 secs

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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:24:53 ; Search time 16 Seconds
(without alignments)
32.266 Million cell updates/sec

Title: US-09-857-115-6

Perfect score: 73

Sequence: 1 EHWSHGWPG 10

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 500 summaries

Database : Issued Patents AA:*

1: /cgn2_6/prodata/2/iaa/5A_COMB.pep:*

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3: /cgn2_6/prodata/2/iaa/6A_COMB.pep:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
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2	73	100.0	10	3	US-08-912-314A-16
3	70	95.9	85	1	US-08-341-219-22
4	70	95.9	85	3	US-08-912-314A-22
5	68	93.2	9	1	US-08-341-219-9
6	68	93.2	9	3	US-08-912-314A-9
7	68	93.2	10	4	US-09-381-879-18
8	66	90.4	10	4	US-09-419-161-2
9	66	90.4	10	4	US-09-941-094C-2
10	65	89.0	10	1	US-08-341-219-15
11	65	89.0	10	3	US-08-912-314A-15
12	62	84.9	10	1	US-07-690-983D-4
13	62	84.9	10	4	US-09-089-522A-5
14	62	84.9	10	4	US-09-297-989-5
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16	59	80.8	10	3	US-08-912-314A-14
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18	57	78.1	10	3	US-08-912-314A-17
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20	56	76.7	90	3	US-08-912-314A-24
21	54	74.0	10	1	US-08-242-678D-8
22	52	71.2	10	4	US-09-419-161-4
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25	52	71.2	33	4	US-09-381-879-15
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142	45	61.6	27	3	US-09-100-414B-51	Sequence 51, Appl	215	45	61.6	30	4	US-09-770-014-71	Sequence 71, Appl
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251	45	61.6	32	1	US-08-488-351A-14	Sequence 14, Appl	324	45	61.6	55	3	US-08-458-814-7	Sequence 7, Appl
252	45	61.6	32	2	US-08-488-351A-21	Sequence 21, Appl	325	45	61.6	84	3	US-07-690-983D-47	Sequence 47, Appl
253	45	61.6	32	2	US-08-488-351A-31	Sequence 31, Appl	326	45	61.6	441	4	US-09-171-461-26	Sequence 26, Appl
254	45	61.6	33	1	US-08-446-692-27	Sequence 27, Appl	327	43	58.9	10	4	US-09-089-522A-11	Sequence 11, Appl
255	45	61.6	33	1	US-08-488-351A-27	Sequence 27, Appl	328	43	58.9	10	4	US-09-297-989-11	Sequence 11, Appl
256	45	61.6	34	1	US-08-488-351A-16	Sequence 16, Appl	329	43	58.9	92	1	US-08-341-219-21	Sequence 21, Appl
257	45	61.6	34	2	US-08-446-692-16	Sequence 16, Appl	330	43	58.9	92	1	US-08-912-314A-21	Sequence 21, Appl
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269	45	61.6	37	1	US-08-446-692-15	Sequence 15, Appl	342	42	57.5	10	1	US-08-387-156-2	Sequence 2, Appl
270	45	61.6	37	1	US-08-446-692-24	Sequence 24, Appl	343	42	57.5	10	2	US-08-694-865-2	Sequence 2, Appl
271	45	61.6	37	2	US-08-488-351A-15	Sequence 15, Appl	344	42	57.5	10	2	US-08-878-748-2	Sequence 2, Appl
272	45	61.6	37	2	US-08-488-351A-24	Sequence 24, Appl	345	42	57.5	10	3	US-08-521-079-2	Sequence 2, Appl
273	45	61.6	38	1	US-08-446-692-11	Sequence 11, Appl	346	42	57.5	10	3	US-08-521-079-4	Sequence 4, Appl
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279	45	61.6	45	1	US-08-446-692-33	Sequence 33, Appl	352	42	57.5	10	3	US-08-521-079-16	Sequence 16, Appl
280	45	61.6	45	2	US-08-488-351A-32	Sequence 32, Appl	353	42	57.5	10	3	US-08-521-079-19	Sequence 19, Appl
281	45	61.6	45	2	US-08-488-351A-33	Sequence 33, Appl	354	42	57.5	10	3	US-09-124-491-2	Sequence 2, Appl
282	45	61.6	45	3	US-09-100-414B-45	Sequence 45, Appl	355	42	57.5	10	3	US-09-082-279B-1143	Sequence 1143, Ap
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287	45	61.6	45	3	US-09-303-323-52	Sequence 52, Appl	360	42	57.5	10	4	US-09-315-304B-1309	Sequence 1309, Ap
288	45	61.6	45	4	US-09-770-014-45	Sequence 45, Appl	361	42	57.5	10	4	US-09-315-304B-1344	Sequence 1344, Ap
289	45	61.6	45	4	US-09-770-014-46	Sequence 46, Appl	362	42	57.5	10	4	US-09-381-879-9	Sequence 9, Appl
290	45	61.6	45	4	US-09-770-014-52	Sequence 52, Appl	363	42	57.5	10	4	US-09-834-784-1143	Sequence 1143, Ap
291	45	61.6	46	1	US-08-446-692-40	Sequence 40, Appl	364	42	57.5	10	4	US-09-834-784-1309	Sequence 1309, Ap
292	45	61.6	46	2	US-08-488-351A-40	Sequence 40, Appl	365	42	57.5	10	4	US-09-834-784-1344	Sequence 1344, Ap
293	45	61.6	46	3	US-09-100-414B-75	Sequence 75, Appl	366	42	57.5	10	4	US-09-515-965A-1143	Sequence 1143, Ap
294	45	61.6	46	3	US-09-303-323-75	Sequence 75, Appl	367	42	57.5	10	4	US-09-515-965A-1309	Sequence 1309, Ap
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298	45	61.6	47	3	US-09-100-414B-60	Sequence 60, Appl	371	42	57.5	10	4	US-09-350-641C-1344	Sequence 1344, Ap
299	45	61.6	47	3	US-09-100-414B-63	Sequence 63, Appl	372	42	57.5	10	4	US-09-964-201A-32	Sequence 32, Appl
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304	45	61.6	48	1	US-08-446-692-37	Sequence 37, Appl	377	42	57.5	13	3	US-08-341-219-4	Sequence 4, Appl
305	45	61.6	48	1	US-08-488-351A-37	Sequence 37, Appl	378	42	57.5	13	3	US-08-912-314A-4	Sequence 4, Appl
306	45	61.6	48	2	US-08-488-351A-41	Sequence 41, Appl	379	42	57.5	14	1	US-08-453-588-23	Sequence 23, Appl
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309	45	61.6	49	2	US-09-100-414B-57	Sequence 57, Appl	382	42	57.5	15	1	US-08-521-079-25	Sequence 25, Appl
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318	45	61.6	49	4	US-09-770-014-62	Sequence 62, Appl	391	42	57.5	18	4	US-09-315-304B-1148	Sequence 1148, Ap
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ALIGNMENTS

RESULT 1

US-08-341-219-16
; Sequence 16, Application US/08341219
; Patent No. 5643877
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gothelf, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; TITLE OF INVENTION: Reproduction in Fish
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Pennie & Edmonds
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA: US/08/341,219
; APPLICATION NUMBER: 05-DEC-1994
; FILING DATE: 05-DEC-1994
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999

TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
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US-08-341-219-16
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Best Local Similarity 100.0%; Pred. No. 6.1e-05;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 1 EHWSHGWYPG 10

RESULT 2
US-08-912-314A-16
Sequence 16, Application US/08912314A
Patent No. 6210927
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothliff, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
TITLE OF INVENTION: Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/912,314A
FILING DATE: 30-JUN-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: 08/341,219
FILING DATE: 05-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090

TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
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NAME/KEY: Modified-site
LOCATION: 1
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FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
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US-08-912-314A-16
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Db 1 EHWSHGWYPG 10

RESULT 3
US-08-341-219-22
Sequence 22, Application US/08341219
Patent No. 5643877
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothliff, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
TITLE OF INVENTION: Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/341,219
FILING DATE: 05-DEC-1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
LENGTH: 85 amino acids
TYPE: amino acid

STRANDEDNESS: not relevant

TOPOLOGY: unknown

MOLECULE TYPE: peptide

HYPOTHETICAL: NO

ANTI-SENSE: NO

US-08-341-219-22

Query Match 95.9%; Score 70; DB 1; Length 85;

Best Local Similarity 90.0%; Pred. No. 0.0014; 0; Indels

Matches 9; Conservative 1; Mismatches 0; Gaps 0;

Qy 1 EHWSHGWYPG 10

Db 24 QHWSHGWPY 33

RESULT 4

US-08-912-314A-22

; Sequence 22, Application US/08912314A

; Patent No. 6210927

; GENERAL INFORMATION:

; APPLICANT: Zohar, Y.

; APPLICANT: Rivier, J.

; APPLICANT: Powell, J.

; APPLICANT: Sherwood, N.

; APPLICANT: Gethilf, Y.

; TITLE OF INVENTION: Compounds and Methods For Controlling

; REPRODUCTION IN FISH

; NUMBER OF SEQUENCES: 26

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Pennie & Edmonds

; STREET: 1155 Avenue of the Americas

; CITY: New York

; STATE: N.Y.

; COUNTRY: USA

; ZIP: 10036-2711

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patent In Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/912,314A

; FILING DATE: 30-JUN-1997

; CLASSIFICATION: 514

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: 08/341,219

; FILING DATE: 05-DEC-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: Coruzzi, Laura A.

; REGISTRATION NUMBER: 30742

; REFERENCE/DOCKET NUMBER: 8399-003-999

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (212) 790-9090

; TELEFAX: (212) 869-8864/9741

; INFORMATION FOR SEQ ID NO: 22:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 85 amino acids

; TYPE: amino acid

; STRANDEDNESS: not relevant

; TOPOLOGY: unknown

; MOLECULE TYPE: peptide

; HYPOTHETICAL: NO

; ANTI-SENSE: NO

US-08-912-314A-22

Query Match

Best Local Similarity 95.9%; Score 70; DB 3; Length 85;

Best Local Similarity 90.0%; Pred. No. 0.0014;

Matches 9; Conservative 1; Mismatches 0; Indels

Qy 1 EHWSHGWYPG 10

Db 24 QHWSHGWPY 33

RESULT 5

US-08-341-219-9

; Sequence 9, Application US/08341219

; Patent No. 5643877

; GENERAL INFORMATION:

; APPLICANT: Zohar, Y.

; APPLICANT: Rivier, J.

; APPLICANT: Powell, J.

; APPLICANT: Sherwood, N.

; APPLICANT: Gethilf, Y.

; TITLE OF INVENTION: Compounds and Methods For Controlling

; REPRODUCTION IN FISH

; NUMBER OF SEQUENCES: 26

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Pennie & Edmonds

; STREET: 1155 Avenue of the Americas

; CITY: New York

; STATE: N.Y.

; COUNTRY: USA

; ZIP: 10036-2711

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patent In Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/341,219

; FILING DATE: 05-DEC-1994

; CLASSIFICATION: 514

; ATTORNEY/AGENT INFORMATION:

; NAME: Coruzzi, Laura A.

; REGISTRATION NUMBER: 30742

; REFERENCE/DOCKET NUMBER: 8399-003-999

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (212) 790-9090

; TELEFAX: (212) 869-8864/9741

; INFORMATION FOR SEQ ID NO: 9:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 9 amino acids

; TYPE: amino acid

; STRANDEDNESS: single

; TOPOLOGY: unknown

; MOLECULE TYPE: peptide

US-08-341-219-9

Query Match

Best Local Similarity 93.2%; Score 68; DB 1; Length 9;

Best Local Similarity 100.0%; Pred. No. 3e+05;

Matches 9; Conservative 0; Mismatches 0; Indels

Qy 2 HWSHGWPY 10

Db 1 HWSHGWPY 9

RESULT 6

US-08-912-314A-9

; Sequence 9, Application US/08912314A

; Patent No. 6210927

; GENERAL INFORMATION:

; APPLICANT: Zohar, Y.

; APPLICANT: Rivier, J.

; APPLICANT: Powell, J.

; APPLICANT: Sherwood, N.

; APPLICANT: Gethilf, Y.

; TITLE OF INVENTION: Compounds and Methods For Controlling

; REPRODUCTION IN FISH

; NUMBER OF SEQUENCES: 26

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Pennie & Edmonds

; STREET: 1155 Avenue of the Americas

; CITY: New York

STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/912,314A
FILING DATE: 30-JUN-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/341,219
FILING DATE: 05-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-08-912-314A-9

Query Match 93.2%; Score 68; DB 3; Length 9;
Best Local Similarity 100.0%; Pred. No. 3e+05;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 HWSHGWPY 10
Db 1 HWSHGWPY 9

RESULT 7
US-09-381-879-18
Sequence 18, Application US/09381879
Patent No. 6635740
GENERAL INFORMATION:
APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors
Enright, Frederick M.
Jaynes, Jesse M.
Hansel, William
Koonce, Kenneth L.
McCann, Samuel M.
Yu, Wen H.
Meirose, Patricia A.
Foil, Lane D.
Elzer, Philip H.
TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and Methods of Use
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: John H. Rannels
STREET: P. O. Box 2471
CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/381,879
FILING DATE: 25-Aug-1999

CLASSIFICATION: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Rannels, John H.
REGISTRATION NUMBER: 33,451
REFERENCE/DOCKET NUMBER: 96A3.2-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..10
OTHER INFORMATION: /note= "Xaa in position 1 denotes pyro-glutamic acid. This sequence is chicken II GnRH."
SEQUENCE DESCRIPTION: SEQ ID NO: 18:
US-09-381-879-18

Query Match 93.2%; Score 68; DB 4; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.00032;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 HWSHGWPY 10
Db 2 HWSHGWPY 10

RESULT 8
US-09-419-161-2
Sequence 2, Application US/09419161
Patent No. 6323179
GENERAL INFORMATION:
APPLICANT: Siler-Khodr, Theresa M.
TITLE OF INVENTION: No. 6323179-Mammalian GnRH Analogs and Uses Thereof in Regulation
FILE REFERENCE: P7345.2
CURRENT APPLICATION NUMBER: US/09/419,161
CURRENT FILING DATE: 1999-10-15
NUMBER OF SEQ ID NOS: 4
SEQ ID NO 2
LENGTH: 10
TYPE: Ppt
ORGANISM: Chicken II GnRH
FEATURE:
NAME/KEY: mat_peptide
LOCATION: Within brain mRNA 121-150, within brain gene 2174-2203.
OTHER INFORMATION: MOD_RES substitution of Gly residue at 10 by -aza-Gly-NH2.
OTHER INFORMATION: Xaa represents D-Arg, MOD_RES Glu at position 1 is pyroglutamic acid.
US-09-419-161-2

Query Match 90.4%; Score 66; DB 4; Length 10;
Best Local Similarity 90.0%; Pred. No. 0.00063;
Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EWSHGWPY 10
Db 1 EWSHGWPY 10

RESULT 9
US-09-941-094C-2
Sequence 2, Application US/09941094C
Patent No. 6635739
GENERAL INFORMATION:
APPLICANT: Siler-Khodr, Theresa M.
TITLE OF INVENTION: No. 6635739-Mammalian GnRH Analogs and Uses Thereof in Regulation
FILING DATE: 25-Aug-1999

FILE REFERENCE: P7345.2(CIP)
CURRENT APPLICATION NUMBER: US/09/941, 094C
CURRENT FILING DATE: 1999-10-15
PRIOR APPLICATION NUMBER: US 09/419, 161
PRIOR FILING DATE: 1999-10-15
NUMBER OF SEQ ID NOS: 4
SEQ ID NO 2
LENGTH: 10
TYPE: Ppt
ORGANISM: Gallus gallus
FEATURE:
NAME/KEY: mat_peptide
LOCATION: Within brain mRNA 121-150, within brain gene 2174-2203.
OTHER INFORMATION: MOD_RES substitution of Gly residue at 10 by aza-Gly-NH2, ethylam
OTHER INFORMATION: other Gly amide. Xaa represents D-Arg. MOD_RES Glu at position
OTHER INFORMATION: pyroglutamic acid.
US-09-941-094C-2

Query Match 90.4%; Score 66; DB 4; Length 10;
Best Local Similarity 90.0%; Pred. No. 0.00063;
Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWPY 10
DB 1 EHWSXWY 10

RESULT 10
US-08-219-15
Sequence 15, Application US/08341219
Patent No. 5643877
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothelf, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
TITLE OF INVENTION: Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/341,219
FILING DATE: 05-DEC-1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:

NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-341-219-15
Query Match 89.0%; Score 65; DB 1; Length 10;
Best Local Similarity 90.0%; Pred. No. 0.00089;
Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 EHWSHGWPY 10
DB 1 EHWSHGWLPG 10
RESULT 11
US-08-912-314A-15
Sequence 15, Application US/08912314A
Patent No. 6210327
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothelf, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
TITLE OF INVENTION: Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/912,314A
FILING DATE: 30-JUN-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/341,219
FILING DATE: 05-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1

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; OTHER INFORMATION: /product= "OTHER"
; OTHER INFORMATION: /label= Glu1
; OTHER INFORMATION: /note= "pyroglutamic acid"
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 10
; OTHER INFORMATION: /product= "OTHER"
; OTHER INFORMATION: /label= Gly10
; OTHER INFORMATION: /note= "amidated"
; US-08-912-314A-15
;
; Query Match      89.0%; Score 65; DB 3; Length 10;
; Best Local Similarity 90.0%; Pred. No. 0.00089;
; Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
;
QY 1 EHWSHGWYFG 10
Db 1 EHWSHGWLPG 10
;
; RESULT 12
; US-07-690-983D-4
; Sequence 4, Application US/07690983D
; Patent No. 5403586
; GENERAL INFORMATION:
; APPLICANT: RUSSELL-JONES, Gregory J.
; APPLICANT: STEWART, Andrew G.
; APPLICANT: TSONIS, Con G.
; TITLE OF INVENTION: FUSION PROTEINS
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W.
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 1
; OTHER INFORMATION: /note= "Represents pyroglutamic acid"
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 10
; OTHER INFORMATION: /note= "Represents glycylamide"
; US-07-690-983D-4
;
; Query Match      84.9%; Score 62; DB 1; Length 10;

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; Best Local Similarity 100.0%; Pred. No. 0.0024;
; Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
;
QY 2 HWSHGWYP 9
Db 2 HWSHGWYP 9
;
; RESULT 13
; US-09-089-522A-5
; Sequence 5, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
; OTHER INFORMATION: at 10 is Gly-NH2"
; US-09-089-522A-5
;
; Query Match      84.9%; Score 62; DB 4; Length 10;
; Best Local Similarity 100.0%; Pred. No. 0.0024;
; Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
;
QY 2 HWSHGWYP 9
Db 2 HWSHGWYP 9
;
; RESULT 14
; US-09-297-989-5
; Sequence 5, Application US/09297989
; Patent No. 6407205
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471

```

CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25;
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/297,989
FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Runnels, John H.
REGISTRATION NUMBER: 33451
REFERENCE/DOCKET NUMBER: 9703P-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
OTHER INFORMATION: at 10 is Gly-NH2"
US-09-297-989-5

Query Match 84.9%; Score 62; DB 4; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.0024; Indels 0; Gaps 0;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 HWSHGWP 9
Db 2 HWSHGWP 9

RESULT 15
US-08-341-219-14
Sequence 14, Application US/08341219
Patent No. 5643877
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothliff, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/341,219
FILING DATE: 05-DEC-1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742

REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-341-219-14

Query Match 80.8%; Score 59; DB 1; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.0066; Indels 0; Gaps 0;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 EHWSHGWYP 10
Db 1 EHWSYGWLPG 10

RESULT 16
US-08-912-314A-14
Sequence 14, Application US/08912314A
Patent No. 6210927
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothliff, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/912,314A
FILING DATE: 30-JUN-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/341,219
FILING DATE: 05-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:

TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-341-219-17
Query Match 78.1%; Score 57; DB 1; Length 10;
Best Local Similarity 80.0%; Pred.No. 0.013;
Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYFG 10
DB 1 EHWSHDWKPG 10
RESULT 18
US-08-912-314A-17
Sequence 17, Application US/08912314A
Patent No. 6210927
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothliff, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
REPRODUCTION IN FISH
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/912,314A
FILING DATE: 30-JUN-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/341,219
FILING DATE: 05-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant

TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-912-314A-14
Query Match 80.8%; Score 59; DB 3; Length 10;
Best Local Similarity 80.0%; Pred.No. 0.0066;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
QY 1 EHWSHGWYFG 10
DB 1 EHWSYGWLPG 10
RESULT 17
US-08-341-219-17
Sequence 17, Application US/08341219
Patent No. 5643877
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothliff, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
REPRODUCTION IN FISH
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/341,219
FILING DATE: 05-DEC-1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids

TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-912-314A-17

Query Match 78.1%; Score 57; DB 3; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.013; 2; Indels 0;
Matches 8; Conservative 0; Mismatches 2; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 EHWSHDWKPG 10

RESULT 19
US-08-341-219-24
; Sequence 24, Application US/08341219
; Patent No. 5643877
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gothilf, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; TITLE OF INVENTION: Reproduction in Fish
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/341,219
; FILING DATE: 05-DEC-1994
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999
; TELEPHONE: (212) 790-9090
; TELEFAX: (212) 869-8864/9741
; INFORMATION FOR SEQ ID NO: 24:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 90 amino acids
; TYPE: amino acid
; STRANDEDNESS: not relevant
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
US-08-341-219-24

Query Match 76.7%; Score 56; DB 1; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.17;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 24 QHWSYGLPG 33

RESULT 20
US-08-912-314A-24
; Sequence 24, Application US/08912314A
; Patent No. 6210927
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gothilf, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; TITLE OF INVENTION: Reproduction in Fish
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/912,314A
; FILING DATE: 30-JUN-1997
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/341,219
; FILING DATE: 05-DEC-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212) 790-9090
; TELEFAX: (212) 869-8864/9741
; INFORMATION FOR SEQ ID NO: 24:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 90 amino acids
; TYPE: amino acid
; STRANDEDNESS: not relevant
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
US-08-912-314A-24

Query Match 76.7%; Score 56; DB 3; Length 90;
Best Local Similarity 70.0%; Pred. No. 0.17;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 24 QHWSYGLPG 33

RESULT 21
US-08-242-678D-8
; Sequence 8, Application US/08242678D
; Patent No. 5760000

GENERAL INFORMATION:
APPLICANT: HABIBI, Hamid R.
TITLE OF INVENTION: INHIBITION OF LIVER CANCER BY THE USE OF
TITLE OF INVENTION: GNRH AND GNRH ANALOGS
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: BURNS, DOANE, SWECKER & MATHIS
STREET: P.O. Box 1404
CITY: Alexandria
STATE: Virginia
COUNTRY: United States
ZIP: 22313-1404
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/242,678D
FILING DATE: 13-MAY-1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Dadio, Susan M.
REGISTRATION NUMBER: 40,373
REFERENCE/DOCKET NUMBER: 028722-103
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
TELEFAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /label= AAL
OTHER INFORMATION: /note= "AAL is PYROGLUTAMIC ACID"
US-08-242-678D-8

Query Match 74.0%; Score 54; DB 1; Length 10;
Best Local Similarity 77.8%; Pred. No. 0.035;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 HWSHGWPFG 10
DB 2 HWSYXWLPFG 10

RESULT 22
US-09-419-161-4
Sequence 4, Application US/09419161
Patent No. 6323179
GENERAL INFORMATION:
APPLICANT: Siler-Khodr, Theresa M.
TITLE OF INVENTION: No. 6323179-Mammalian Gnrh Analogs and Uses Thereof in Regulation
TITLE OF INVENTION: Fertility and Pregnancy
FILE REFERENCE: P7345.2
CURRENT APPLICATION NUMBER: US/09/419,161
CURRENT FILING DATE: 1999-10-15
NUMBER OF SEQ ID NOS: 4
SEQ ID NO 4
LENGTH: 10
TYPE: Ppt
ORGANISM: Salmon Gnrh
FEATURE:
NAME/KEY: mat_peptide
LOCATION: unknown
OTHER INFORMATION: MOD RES substitution of Gly residue at 10 with -aza-Gly-NH2.
OTHER INFORMATION: Xaa represents D-Arg. MOD_RES Glu at position 1 is
OTHER INFORMATION: pyroglutamic acid.

US-09-419-161-4

Query Match 71.2%; Score 52; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.069;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYFG 10
DB 1 EHWSYXWLPFG 10

RESULT 23
US-09-941-094C-4
Sequence 4, Application US/09941094C
Patent No. 6635739
GENERAL INFORMATION:
APPLICANT: Siler-Khodr, Theresa M.
TITLE OF INVENTION: No. 6635739-Mammalian Gnrh Analogs and Uses Thereof in Regulation
TITLE OF INVENTION: Pregnancy
FILE REFERENCE: P7345.2(CIP)
CURRENT APPLICATION NUMBER: US/09/941,094C
CURRENT FILING DATE: 1999-10-15
PRIOR APPLICATION NUMBER: US 09/419, 161
PRIOR FILING DATE: 1999-10-15
NUMBER OF SEQ ID NOS: 4
SEQ ID NO 4
LENGTH: 10
TYPE: Ppt
ORGANISM: Salmo salar
FEATURE:
NAME/KEY: mat_peptide
LOCATION: unknown
OTHER INFORMATION: MOD RES substitution of Gly residue at 10 with aza-Gly-NH2, ethyl.
OTHER INFORMATION: other Gly amide. Xaa represents D-Arg.
OTHER INFORMATION: MOD_RES Glu at position 1 is pyroglutamic acid.
US-09-941-094C-4

Query Match 71.2%; Score 52; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.069;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYFG 10
DB 1 EHWSYXWLPFG 10

RESULT 24
US-09-381-879-16
Sequence 16, Application US/09381879
Patent No. 6635740
GENERAL INFORMATION:
APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors
Enright, Frederick M.
Jaynes, Jesse M.
Hansel, William L.
Koonce, Kenneth L.
McCann, Samuel M.
Yu, Wen H.
Melrose, Patricia A.
Foil, Lane D.
Elzer, Philip H.
TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and
METHODS OF USE
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: John H. Runnels
STREET: P. O. Box 2471
CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/381,879
FILING DATE: 25-Aug-1999
CLASSIFICATION: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Runnels, John H.
REGISTRATION NUMBER: 33,451
REFERENCE/DOCKET NUMBER: 96A3.2-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..10
OTHER INFORMATION: /note= "Xaa in position 1 denotes
pyro-glutamic acid. This sequence is 1-LHRH-III."
SEQUENCE DESCRIPTION: SEQ ID NO: 16:
US-09-381-879-16

Query Match 71.2%; Score 52; DB 4; Length 10;
Best Local Similarity 77.8%; Pred. NO. 0.069; 2; Indels 0; Gaps 0;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWPVG 10
|||||
DB 2 HWSHDWKPVG 10

RESULT 25
US-09-381-879-15
Sequence 15, Application US/09381879
Patent No. 6635740
GENERAL INFORMATION:
APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors
Enright, Frederick M.
Jaynes, Jesse M.
Hansel, William
Koonce, Kenneth L.
McCann, Samuel M.
Yu, Wen H.
Melrose, Patricia A.
Foil, Jane D.
Elzer, Philip H.
TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and
Methods of Use
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: John H. Runnels
STREET: P. O. Box 2471
CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/381,879
FILING DATE: 25-Aug-1999
CLASSIFICATION: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Runnels, John H.

REGISTRATION NUMBER: 33,451
REFERENCE/DOCKET NUMBER: 96A3.2-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 33 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..33
OTHER INFORMATION: /note= "Xaa in position 1 denotes
pyro-glutamic acid. This sequence is an
1-LHRH-III/hecate fusion peptide."
SEQUENCE DESCRIPTION: SEQ ID NO: 15:
US-09-381-879-15

Query Match 71.2%; Score 52; DB 4; Length 33;
Best Local Similarity 77.8%; Pred. NO. 0.23; 2; Indels 0; Gaps 0;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWPVG 10
|||||
DB 2 HWSHDWKPVG 10

RESULT 26
US-08-341-219-13
Sequence 13, Application US/08341219
Patent No. 5643877
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothelf, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/341,219
FILING DATE: 05-DEC-1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO

ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-341-219-13
Query Match 69.9%; Score 51; DB 1; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.097;
Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYPG 10
Db 1 EHWSHGLNPG 10
RESULT 27
US-08-912-314A-13
Sequence 13, Application US/08912314A
Patent No. 6210927
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gethilf, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
TITLE OF INVENTION: Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/912,314A
FILING DATE: 30-JUN-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/341,219
FILING DATE: 05-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:

NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-912-314A-13
Query Match 69.9%; Score 51; DB 3; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.097;
Matches 8; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYPG 10
Db 1 EHWSHGLNPG 10
RESULT 28
US-07-690-983D-5
Sequence 5, Application US/07690983D
Patent No. 5403586
GENERAL INFORMATION:
APPLICANT: RUSSELL-JONES, Gregory J.
APPLICANT: STEWART, Andrew G.
APPLICANT: TSONIS, Con G.
TITLE OF INVENTION: FUSION PROTEINS
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 3000 K Street, N.W.
CITY: Washington, D.C.
COUNTRY: USA
ZIP: 20007-5109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/690,983D
FILING DATE: 25-JUN-1991
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU90/00373
FILING DATE: 24-AUG-1990
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 16786/148 CHAC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
TELEFAX: (202)672-5399
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /note= "Represents pyroglutamic
OTHER INFORMATION: /note= "acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /note= "Represents glycineamide"
US-07-690-983D-5

Query Match 55.8%; Score 48; DB 1; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.26;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 2 HWSHGWP 9
Db 2 HWSYGWLP 9

RESULT 29

US-09-089-522A-4

; Sequence 4, Application US/09089522A

; Patent No. 6300471

; GENERAL INFORMATION:

; APPLICANT: McCann, Samuel M.

; TITLE OF INVENTION: FSH-Releasing Peptides

; NUMBER OF SEQUENCES: 41

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: John H. Runnels

; STREET: P. O. Box 2471

; CITY: Baton Rouge

; STATE: LA

; COUNTRY: USA

; ZIP: 70821-2471

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.25;

; SOFTWARE: WordPerfect 5.1; No. 6300471spad Version 4.0

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/09/089,522A

; FILING DATE: 1998-06-03

; CLASSIFICATION: 514

; ATTORNEY/AGENT INFORMATION:

; NAME: Runnels, John H.

; REGISTRATION NUMBER: 33451

; REFERENCE/DOCKET NUMBER: 9703P.1

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (225) 387-3221

; TELEFAX: (225) 346-8049

; INFORMATION FOR SEQ ID NO: 4:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 10 amino acids

; TYPE: amino acid

; TOPOLOGY: linear

; MOLECULE TYPE: peptide

; FEATURE:

; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa

; OTHER INFORMATION: at 10 is Gly-NH2"

US-09-089-522A-4

Query Match 65.8%; Score 48; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.26;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 2 HWSHGWP 9
Db 2 HWSYGWLP 9

RESULT 30

US-09-297-989-4

; Sequence 4, Application US/09297989

; Patent No. 6407205

; GENERAL INFORMATION:

; APPLICANT: McCann, Samuel M.

; APPLICANT: Yu, Wen H.

; TITLE OF INVENTION: FSH-Releasing Peptides

; NUMBER OF SEQUENCES: 41

; CORRESPONDENCE ADDRESS:

ADDRESSEE: John H. Runnels
STREET: P. O. Box 2471
CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25;
SOFTWARE: WordPerfect 5.1; No. 6407205spad Version 4.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/297,989
FILING DATE:
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Runnels, John H.
REGISTRATION NUMBER: 33451
REFERENCE/DOCKET NUMBER: 9703P-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
OTHER INFORMATION: at 10 is Gly-NH2"

US-09-297-989-4

Query Match 65.8%; Score 48; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.26;
Matches 6; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 2 HWSHGWP 9
Db 2 HWSYGWLP 9

RESULT 31

US-08-341-219-23

; Sequence 23, Application US/08341219

; Patent No. 5643877

; GENERAL INFORMATION:

; APPLICANT: Zohar, Y.

; APPLICANT: Rivier, J.

; APPLICANT: Powell, J.

; APPLICANT: Sherwood, N.

; APPLICANT: Gothelf, Y.

; TITLE OF INVENTION: Compounds and Methods For Controlling

; TITLE OF INVENTION: Reproduction in Fish

; NUMBER OF SEQUENCES: 26

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Pennie & Edmonds

; STREET: 1155 Avenue of the Americas

; CITY: New York

; STATE: N.Y.

; COUNTRY: USA

; ZIP: 10036-2711

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/341,219

; FILING DATE: 05-DEC-1994

; CLASSIFICATION: 514

; ATTORNEY/AGENT INFORMATION:

```
; NAME: Coruzzi,, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212) 790-9090
; TELEFAX: (212) 869-8864/9741
; INFORMATION FOR SEQ ID NO: 23:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 80 amino acids
; TYPE: amino acid
; STRANDEDNESS: not relevant
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
US-08-341-219-23

Query Match 65.8%; Score 48; DB 1; Length 80;
Best Local Similarity 70.0%; Pred. No. 2.2;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
DB 22 QHWSHGLNPG 31

RESULT 32
US-08-912-314A-23
; Sequence 23, Application US/08912314A
; Patent No. 6210927
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gethelf, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; TITLE OF INVENTION: Reproduction in Fish
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/912.314A
; FILING DATE: 30-JUN-1997
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/341,219
; FILING DATE: 05-DEC-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi,, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212) 790-9090
; TELEFAX: (212) 869-8864/9741
; INFORMATION FOR SEQ ID NO: 23:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 80 amino acids
; TYPE: amino acid
; STRANDEDNESS: not relevant
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
```

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; ANTI-SENSE: NO
US-08-912-314A-23

Query Match 65.8%; Score 48; DB 3; Length 80;
Best Local Similarity 70.0%; Pred. No. 2.2;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
DB 22 QHWSHGLNPG 31

RESULT 33
US-09-089-522A-7
; Sequence 7, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patent In Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
; OTHER INFORMATION: at 10 is Gly-NH2"
US-09-089-522A-7

Query Match 64.4%; Score 47; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.37;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWYP 9
DB 2 HWSHAWKP 9

RESULT 34
US-09-297-989-7
; Sequence 7, Application US/09297989
; Patent No. 6407205
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
```

```
;
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rummels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Rummels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
; OTHER INFORMATION: at 10 is Gly-NH2"
;
US-09-297-989-7

Query Match 64.4%; Score 47; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.37;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
DB 2 HWSHAKP 9

RESULT 35
US-08-341-219-12
; Sequence 12, Application US/08341219
; Patent No. 5643877
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gothliff, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; REPRODUCTION IN FISH
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Fennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/341,219
; FILING DATE: 05-DEC-1994
```

```
;
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi,, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212) 790-9090
; TELEFAX: (212) 869-8864/9741
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: not relevant
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 1
; OTHER INFORMATION: /product= "OTHER"
; OTHER INFORMATION: /label= Glu1
; OTHER INFORMATION: /note= "-pyroglutamic acid"
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 10
; OTHER INFORMATION: /product= "OTHER"
; OTHER INFORMATION: /label= Gly10
; OTHER INFORMATION: /note= "amidated"
;
US-08-341-219-12

Query Match 63.0%; Score 46; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.52;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWP 10
DB 1 EHWSGLQPG 10

RESULT 36
US-08-242-678D-9
; Sequence 9, Application US/08242678D
; Patent No. 5760000
; GENERAL INFORMATION:
; APPLICANT: HABIBI, Hamid R.
; TITLE OF INVENTION: INHIBITION OF LIVER CANCER BY THE USE OF
; GNRH AND GNRH ANALOGS
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BURNS, DOANE, SWECKER & MATHIS
; STREET: P.O. Box 1404
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22313-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/242,678D
; FILING DATE: 13-MAY-1994
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Dadic, Susan M.
; REGISTRATION NUMBER: 40,373
; REFERENCE/DOCKET NUMBER: 028722-103
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 9:
```

```
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 10 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ FEATURE:
/ NAME/KEY: Modified-site
/ LOCATION: 1
/ OTHER INFORMATION: /label= AA1
/ OTHER INFORMATION: /notes="AA1 is PYROGLUTAMIC ACID"
US-08-242-678D-9

Query Match 63.0%; Score 46; DB 1; Length 10;
Best Local Similarity 77.8%; Pred. No. 0.52;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 2 HWSHGWPY 10
Db 2 HWSHGLNPG 10

RESULT 37
US-08-912-314A-12
/ Sequence 12, Application US/08912314A
/ Patent No. 6210927
/ GENERAL INFORMATION:
/ APPLICANT: Zohar, Y.
/ APPLICANT: Rivier, J.
/ APPLICANT: Powell, J.
/ APPLICANT: Sherwood, N.
/ APPLICANT: Gothliff, Y.
/ TITLE OF INVENTION: Compounds and Methods For Controlling
/ TITLE OF INVENTION: Reproduction in Fish
/ NUMBER OF SEQUENCES: 26
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Pennie & Edmonds
/ STREET: 1155 Avenue of the Americas
/ CITY: New York
/ STATE: N.Y.
/ COUNTRY: USA
/ ZIP: 10036-2711
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: Patent In Release #1.0, Version #1.30
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/912,314A
/ FILING DATE: 30-JUN-1997
/ CLASSIFICATION: 514
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: 08/341,219
/ FILING DATE: 05-DEC-1994
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Coruzzi, Laura A.
/ REGISTRATION NUMBER: 30742
/ REFERENCE/DOCKET NUMBER: 8399-003-999
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (212) 790-9090
/ TELEFAX: (212) 869-8864/9741
/ INFORMATION FOR SEQ ID NO: 12:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 10 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: not relevant
/ TOPOLOGY: unknown
/ MOLECULE TYPE: peptide
/ HYPOTHETICAL: NO
/ ANTI-SENSE: NO
/ FEATURE:
/ NAME/KEY: Modified-site
/ LOCATION: 1
```

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/ OTHER INFORMATION: /product= "OTHER"
/ OTHER INFORMATION: /label= Glu1
/ OTHER INFORMATION: /note= "pyroglutamic acid"
/ FEATURE:
/ NAME/KEY: Modified-site
/ LOCATION: 10
/ OTHER INFORMATION: /product= "OTHER"
/ OTHER INFORMATION: /label= Gly10
/ OTHER INFORMATION: /note= "amidated"
US-08-912-314A-12

Query Match 63.0%; Score 46; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.52;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 EHWSHGWYPG 10
Db 1 EHWSYGLQPG 10

RESULT 38
US-09-089-522A-1
/ Sequence 1, Application US/09089522A
/ Patent No. 6300471
/ GENERAL INFORMATION:
/ APPLICANT: McCann, Samuel M.
/ APPLICANT: Yu, Wen H.
/ TITLE OF INVENTION: FSH-Releasing Peptides
/ NUMBER OF SEQUENCES: 41
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: John H. Runnels
/ STREET: P. O. Box 2471
/ CITY: Baton Rouge
/ STATE: LA
/ COUNTRY: USA
/ ZIP: 70821-2471
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: Patent In Release #1.0, Version #1.25;
/ SOFTWARE: Wordperfect 5.1; No. 6300471epad Version 4.0
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/09/089,522A
/ FILING DATE: 1998-06-03
/ CLASSIFICATION: 514
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Runnels, John H.
/ REGISTRATION NUMBER: 33451
/ REFERENCE/DOCKET NUMBER: 9703P.1
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (225) 387-3221
/ TELEFAX: (225) 346-8049
/ INFORMATION FOR SEQ ID NO: 1:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 10 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
/ MOLECULE TYPE: peptide
/ FEATURE:
/ OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
/ OTHER INFORMATION: at 10 is Gly-NH2"
US-09-089-522A-1

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 2 HWSHGWPY 9
Db 2 HWSHDWKP 9
```

RESULT 39

US-09-089-522A-9
; Sequence 9, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; OTHER INFORMATION: Xaa at 6 is (D-Ala); Xaa at 10 is Gly-NH2"
US-09-089-522A-9

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy

2 HWSHGWP 9

|||||

2 HWSHXKP 9

Db

2 HWSHXKP 9

|||||

RESULT 40

US-09-089-522A-13
; Sequence 13, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy

2 HWSHGWP 9

|||||

2 HWSHXKP 9

Db

2 HWSHXKP 9

|||||

; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; OTHER INFORMATION: Xaa at 6 is (D-Leu); Xaa at 10 is Gly-NH2"
US-09-089-522A-13

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy

2 HWSHGWP 9

|||||

2 HWSHXKP 9

Db

2 HWSHXKP 9

|||||

RESULT 41

US-09-089-522A-15
; Sequence 15, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 15:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:

OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
OTHER INFORMATION: Xaa at 6 is (SerBut); Xaa at 10 is Gly-NH2"
US-09-089-522A-15

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
DB 2 HWSHXWP 9

RESULT 42
US-09-089-522A-17
; Sequence 17, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471lepad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 17:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
OTHER INFORMATION: Xaa at 6 is (D-SerBut); Xaa at 10 is Gly-NH2"
US-09-089-522A-17

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
DB 2 HWSHXWP 9

RESULT 43
US-09-089-522A-21
; Sequence 21, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.

; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471lepad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 21:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
OTHER INFORMATION: Xaa at 6 is (D-Trp); Xaa at 10 is Gly-NH2"
US-09-089-522A-21

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
DB 2 HWSHXWP 9

RESULT 44
US-09-089-522A-23
; Sequence 23, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
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; SOFTWARE: WordPerfect 5.1; No. 6300471lepad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:

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; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 23:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; OTHER INFORMATION: Xaa at 6 is (His-Bzl); Xaa at 10 is Gly-NH2"
US-09-089-522A-23

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Best Local Similarity 75.0%; Pred. NO. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Db 2 HWSHXWKP 9

RESULT 45
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; Sequence 25, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 25:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
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; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; OTHER INFORMATION: Xaa at 6 is (D-His-Bzl); Xaa at 10 is Gly-NH2"
US-09-089-522A-25

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. NO. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGKYP 9
Db 2 HWSHXWKP 9

RESULT 46
US-09-089-522A-27
; Sequence 27, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 27:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; OTHER INFORMATION: Xaa at 6 is Nal(2); Xaa at 10 is Gly-NH2"
US-09-089-522A-27

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Best Local Similarity 75.0%; Pred. NO. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGKYP 9
Db 2 HWSHXWKP 9

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US-09-089-522A-29
; Sequence 29, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 29:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; OTHER INFORMATION: Xaa at 6 is (D-His-Bzl); Xaa at 10 is Gly-NH2"
US-09-089-522A-29

Query Match 63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. NO. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
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; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; OTHER INFORMATION: Xaa at 6 is Nal(2); Xaa at 10 is (aza-Gly)"
US-09-089-522A-31

Query Match      63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY      2 HWSHGWP 9
DB      2 HWSHWKP 9

RESULT 49
US-09-089-522A-32
; Sequence 32, Application US/09089522A
; Patent No. 6300471
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rannels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6300471epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/089,522A
; FILING DATE: 1998-06-03
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Rannels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 32:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; OTHER INFORMATION: Xaa at 6 is (D-Nal(2)); Xaa at 10 is (aza-Gly)"
US-09-089-522A-32

Query Match      63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY      2 HWSHGWP 9
DB      2 HWSHWKP 9

RESULT 50

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US-09-297-989-1
; Sequence 1, Application US/09297989
; Patent No. 6407205
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; SOFTWARE: WordPerfect 5.1; No. 6407205epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
; OTHER INFORMATION: at 10 is Gly-NH2"
US-09-297-989-1

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Query Match      63.0%; Score 46; DB 4; Length 10;
Best Local Similarity 75.0%; Pred. No. 0.52;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Db      2 HWSHWKP 9

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GenCore version 5.1.6
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OM protein - protein search, using sw model

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Title: US-09-857-115-6

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Minimum DB seq length: 0

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Listing first 500 summaries

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SUMMARIES

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95	42	57.5	18	14	US-10-351-641-1147	Sequence 1147, App	168	39	53.4	601	9	US-09-815-242-5070	Sequence 5070, App
96	42	57.5	18	14	US-10-351-641-1148	Sequence 1148, App	169	38.5	52.7	286	10	US-09-910-600-14	Sequence 14, Appli
97	42	57.5	18	14	US-10-351-641-1172	Sequence 1172, App	170	38.5	52.7	463	10	US-09-910-600-13	Sequence 13, Appli
98	42	57.5	20	10	US-10-351-641-1173	Sequence 1173, App	171	38.5	52.7	463	10	US-09-946-374-160	Sequence 160, App
99	42	57.5	22	14	US-09-964-201A-26	Sequence 26, Appli	172	38.5	52.7	463	13	US-10-006-867-86	Sequence 86, Appli
100	42	57.5	26	14	US-10-351-641-1145	Sequence 1145, App	173	38.5	52.7	463	13	US-10-052-586-286	Sequence 286, App
101	42	57.5	33	15	US-10-351-641-1144	Sequence 1144, App	174	38.5	52.7	463	13	US-10-063-547-86	Sequence 86, Appli
102	42	57.5	33	15	US-10-617-561-3	Sequence 3, Appli	175	38.5	52.7	463	14	US-10-174-590-286	Sequence 286, App
103	42	57.5	33	15	US-10-617-561-4	Sequence 4, Appli	176	38.5	52.7	463	14	US-10-176-758-286	Sequence 286, App
104	42	57.5	40	10	US-09-964-201A-35	Sequence 35, Appli	177	38.5	52.7	463	14	US-10-175-737-286	Sequence 286, App
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106	42	57.5	49	9	US-09-019-010-4	Sequence 4, Appli	179	38.5	52.7	463	14	US-10-173-706-286	Sequence 286, App
107	42	57.5	49	10	US-09-308-924-11	Sequence 11, Appli	180	38.5	52.7	463	14	US-10-175-738-286	Sequence 286, App
108	42	57.5	157	9	US-09-934-249-9	Sequence 9, Appli	181	38.5	52.7	463	14	US-10-175-752-286	Sequence 286, App
109	42	57.5	158	14	US-10-097-340-33	Sequence 33, Appli	182	38.5	52.7	463	14	US-10-176-482-286	Sequence 286, App
110	42	57.5	171	9	US-09-843-846-17	Sequence 17, Appli	183	38.5	52.7	463	14	US-10-176-757-286	Sequence 286, App
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113	42	57.5	171	14	US-10-247-671-138	Sequence 138, App	186	38.5	52.7	463	14	US-10-180-552-286	Sequence 286, App
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116	42	57.5	283	15	US-10-365-493-21171	Sequence 21171, A	189	38.5	52.7	463	14	US-10-174-572-286	Sequence 286, App
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123	41	56.2	9	13	US-10-109-331-22	Sequence 22, Appli	196	38.5	52.7	463	14	US-10-176-488-286	Sequence 286, App
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128	41	56.2	10	15	US-10-617-561-17	Sequence 17, Appli	201	38.5	52.7	463	14	US-10-176-987-286	Sequence 286, App
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131	40	54.8	9	13	US-10-109-331-20	Sequence 20, Appli	204	38.5	52.7	463	14	US-10-184-658-286	Sequence 286, App
132	40	54.8	10	9	US-09-810-601-9	Sequence 1, Appli	205	38.5	52.7	463	14	US-10-176-695-286	Sequence 286, App
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134	40	54.8	10	10	US-10-170-096A-30	Sequence 30, Appli	207	38.5	52.7	463	14	US-10-173-697-286	Sequence 286, App
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136	40	54.8	10	15	US-10-360-101-151	Sequence 151, App	209	38.5	52.7	463	14	US-10-174-576-286	Sequence 286, App
137	40	54.8	10	15	US-10-617-561-1	Sequence 1, Appli	210	38.5	52.7	463	14	US-10-174-585-286	Sequence 286, App
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243	38.5	52.7	463	14	US-10-187-885-286	Sequence 286, App	316	38.5	52.7	463	14	US-10-184-645-286	Sequence 286, App
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486 38.5 52.7 463 14 US-10-201-528-286 Sequence 286, App
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499 38.5 52.7 463 14 US-10-196-758-286 Sequence 286, App
500 38.5 52.7 463 14 US-10-198-770-286 Sequence 286, App
501 38.5 52.7 463 14 US-10-199-308-286 Sequence 286, App
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503 38.5 52.7 463 14 US-10-205-891-286 Sequence 286, App
504 38.5 52.7 463 14 US-10-205-897-286 Sequence 286, App
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517 38.5 52.7 463 14 US-10-188-771-286 Sequence 286, App
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523 38.5 52.7 463 14 US-10-194-364-286 Sequence 286, App
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528 38.5 52.7 463 14 US-10-194-488-286 Sequence 286, App
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530 38.5 52.7 463 14 US-10-195-891-286 Sequence 286, App
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547 38.5 52.7 463 14 US-10-199-315-286 Sequence 286, App
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553 38.5 52.7 463 14 US-10-199-673-286 Sequence 286, App
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556 38.5 52.7 463 14 US-10-201-326-286 Sequence 286, App
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559 38.5 52.7 463 14 US-10-201-535-286 Sequence 286, App
560 38.5 52.7 463 14 US-10-201-769-286 Sequence 286, App
561 38.5 52.7 463 14 US-10-201-771-286 Sequence 286, App
562 38.5 52.7 463 14 US-10-201-854-286 Sequence 286, App
563 38.5 52.7 463 14 US-10-202-410-286 Sequence 286, App
564 38.5 52.7 463 14 US-10-202-473-286 Sequence 286, App
565 38.5 52.7 463 14 US-10-202-474-286 Sequence 286, App
566 38.5 52.7 463 14 US-10-205-503-286 Sequence 286, App
567 38.5 52.7 463 14 US-10-205-512-286 Sequence 286, App
568 38.5 52.7 463 14 US-10-205-892-286 Sequence 286, App
569 38.5 52.7 463 14 US-10-205-894-286 Sequence 286, App
570 38.5 52.7 463 14 US-10-205-894-286 Sequence 286, App
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ALIGNMENTS

```
RESULT 1
US-10-360-101-2
; Sequence 2, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: LHRH2 sequence
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US-10-360-101-2

Query Match 95.9%; Score 70; DB 15; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0039;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWTYPG 10
 :|||||
 DB 1 QHWSHGWTYPG 10

RESULT 2

US-10-360-101-303
 ; Sequence 303, Application US/10360101
 ; Publication No. US20040009550A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Moll, Gert N.
 ; APPLICANT: Leenhouts, Cornelis J.
 ; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
 ; FILE REFERENCE: 2183-5673
 ; CURRENT APPLICATION NUMBER: US/10/360,101
 ; CURRENT FILING DATE: 2003-02-07
 ; PRIOR APPLICATION NUMBER: EP 02077060.8
 ; PRIOR FILING DATE: 2002-05-24
 ; NUMBER OF SEQ ID NOS: 309
 ; SOFTWARE: PatentIn version 3.1
 ; SEQ ID NO 303
 ; LENGTH: 10
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; OTHER INFORMATION: LHRH1 analogue
 ; FEATURE:
 ; NAME/KEY: SITE
 ; LOCATION: (4)..(6)
 ; OTHER INFORMATION: No. US20040009550A1e = "A" on pos. 4 and 6 are linked by "S"
 US-10-360-101-303

Query Match 95.9%; Score 70; DB 15; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0039;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWTYPG 10
 :|||||
 DB 1 QHWSHGWTYPG 10

RESULT 3

US-10-360-101-304
 ; Sequence 304, Application US/10360101
 ; Publication No. US20040009550A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Moll, Gert N.
 ; APPLICANT: Leenhouts, Cornelis J.
 ; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
 ; FILE REFERENCE: 2183-5673
 ; CURRENT APPLICATION NUMBER: US/10/360,101
 ; CURRENT FILING DATE: 2003-02-07
 ; PRIOR APPLICATION NUMBER: EP 02077060.8
 ; PRIOR FILING DATE: 2002-05-24
 ; NUMBER OF SEQ ID NOS: 309
 ; SOFTWARE: PatentIn version 3.1
 ; SEQ ID NO 304
 ; LENGTH: 10
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE:
 ; OTHER INFORMATION: LHRH2 analogue
 US-10-360-101-304

Query Match 95.9%; Score 70; DB 15; Length 10;
 Best Local Similarity 90.0%; Pred. No. 0.0039;
 Matches 9; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWTYPG 10
 :|||||
 DB 1 QHWSHGWTYPG 10

RESULT 4

US-10-617-561-18
 ; Sequence 18, Application US/10617561
 ; Publication No. US20040018967A1
 ; GENERAL INFORMATION:
 ; APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors
 ; Enright, Frederick M.
 ; Jaynes, Jesse M.
 ; Hansel, William
 ; Koonce, Kenneth L.
 ; McCann, Samuel M.
 ; Yu, Wen H.
 ; Melrose, Patricia A.
 ; Foil, Lane D.
 ; Elzer, Philip H.
 ; TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and Methods of Use
 ; NUMBER OF SEQUENCES: 18
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: John H. Runnels
 ; STREET: P. O. Box 2471
 ; CITY: Baton Rouge
 ; STATE: LA
 ; COUNTRY: USA
 ; ZIP: 70821-2471
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/10/617,561
 ; FILING DATE: 11-Jul-2003
 ; CLASSIFICATION: <Unknown>
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/381,879
 ; FILING DATE: 25-Aug-1999
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Runnels, John H.
 ; REGISTRATION NUMBER: 33,451
 ; REFERENCE/DOCKET NUMBER: 96A3.2-US
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (225) 387-3221
 ; TELEFAX: (225) 346-8049
 ; INFORMATION FOR SEQ ID NO: 18:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 10 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: peptide
 ; FEATURE:
 ; NAME/KEY: Peptide
 ; LOCATION: 1..10
 ; OTHER INFORMATION: /note= "Xaa in position 1 denotes
 ; pyro-glutamic acid. This sequence is Chicken II
 ; GnRH."
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 18:
 US-10-617-561-18

Query Match 93.2%; Score 68; DB 15; Length 10;
 Best Local Similarity 100.0%; Pred. No. 0.0071;
 Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 HWSHGWTYPG 10
 :|||||
 DB 2 HWSHGWTYPG 10

RESULT 5
US-09-941-094A-2
; Sequence 2, Application US/09941094A
; Patent No. US20020065226A1
; GENERAL INFORMATION:
; APPLICANT: Siler-Khodr, Theresa M.
; TITLE OF INVENTION: Mammalian GnRH Analogs and Uses Thereof in Re
; FILE REFERENCE: P7345.2(CIP)
; CURRENT APPLICATION NUMBER: US/09/941.094A
; CURRENT FILING DATE: 2001-08-28
; PRIOR APPLICATION NUMBER: US 09/419,161
; PRIOR FILING DATE: 1999-10-15
; NUMBER OF SEQ ID NOS: 4
; SEQ ID NO 2
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Gallus gallus
; FEATURE:
; NAME/KEY: mat peptide
; LOCATION: Within brain mRNA 121-150, within brain gene 2174-2203.
; OTHER INFORMATION: MOD_RES substitution of Gly residue at 10 by aza-Gly-NH2. Xaa re
; OTHER INFORMATION: D-Arg. MOD_RES Glu at position 1 is pyroglutamic acid.
US-09-941-094A-2

Query Match 90.4%; Score 66; DB 9; Length 10;
Best Local Similarity 90.0%; Pred. No. 0.013;
Matches 9; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
|||||
DB 1 EHWSHXWYPG 10

RESULT 6
US-10-360-101-144
; Sequence 144, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 144
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (S1,C4)-sequence of LHRH2
US-10-360-101-144

Query Match 86.3%; Score 63; DB 15; Length 10;
Best Local Similarity 88.9%; Pred. No. 0.033;
Matches 8; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 HWSHGWYPG 10
|||
DB 2 HWSHGWYPG 10

RESULT 7
US-10-109-331-5
; Sequence 5, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.

Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rannels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WordPerfect 5.1; No. US20020165159A1eapad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Rannels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
; at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 5:
US-10-109-331-5

Query Match 84.9%; Score 62; DB 13; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.044;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 HWSHGWYP 9
|||||
DB 2 HWSHGWYP 9

RESULT 8
US-10-170-096A-32
; Sequence 32, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University Of New Hampshire
; APPLICANT: Sower, Stacia A
; APPLICANT: Silver, Matt
; TITLE OF INVENTION: No. US20030236184A1e1 Polynucleotides Encoding Lamprey GnRH-III
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 32
; LENGTH: 10
; TYPE: PRT
; ORGANISM: chicken
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (1)-(1)
; OTHER INFORMATION: X at position 1 = pGlu

FEATURE:
; NAME/KEY: MISC_FEATURE
; LOCATION: (10)..(10)
; OTHER INFORMATION: X at position 10 = Gly-NH2
US-10-170-096A-32

Query Match 84.9%; Score 62; DB 15; Length 10;
Best Local Similarity 100.0%; Pred. No. 0.044;
Matches 8; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHGWP 9

RESULT 9

US-10-360-101-153
; Sequence 153, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 153
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,C8)-sequence of LHRH2
US-10-360-101-153

Query Match 83.6%; Score 61; DB 15; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.06;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWP 10
Db 1 QHWSHGWP 10

RESULT 10

US-10-360-101-308
; Sequence 308, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 308
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: LHRH2 analogue
; FEATURE:
; NAME/KEY: SITE
; LOCATION: (4)..(6)
; OTHER INFORMATION: No. US20040009550A1e = "A" on pos. 4 and 6 are linked by "S"
US-10-360-101-308

Query Match 83.6%; Score 61; DB 15; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.06;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWP 10
Db 1 QHWAHWP 10

RESULT 11

US-10-360-101-114
; Sequence 114, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 114
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (C9)-sequence of gonadoliberin II
US-10-360-101-114

Query Match 82.2%; Score 60; DB 15; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.082;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWP 10
Db 1 QHWSHGWP 10

RESULT 12

US-10-360-101-154
; Sequence 154, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 154
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,C9)-sequence of LHRH2
US-10-360-101-154

Query Match 82.2%; Score 60; DB 15; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.082;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWP 10
Db 1 QHWSHGWP 10

RESULT 13
US-10-360-101-307
; Sequence 307, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 307
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: LHRH2 analogue
; NAME/KEY: SITE
; LOCATION: (2)..(4)
; OTHER INFORMATION: No. US20040009550A1e = "A" on pos. 2 and 4 are linked by "S"
US-10-360-101-307

Query Match 78.1%; Score 57; DB 15; Length 10;
Best Local Similarity 87.5%; Pred. No. 0.2;
Matches 7; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 3 WSHGWYPG 10
DB 3 WAHGWYPG 10
RESULT 14
US-10-360-101-309
; Sequence 309, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 309
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,C7)-Sequence of LHRH2
US-10-360-101-309

Query Match 78.1%; Score 57; DB 15; Length 10;
Best Local Similarity 80.0%; Pred. No. 0.2;
Matches 8; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
DB 1 QHWSHGWCYPG 10
RESULT 15
US-10-360-101-146
; Sequence 146, Application US/10360101
; Publication No. US20040009550A1

; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 146
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (S1,A4,C6)-sequence of LHRH2
US-10-360-101-146

Query Match 76.7%; Score 56; DB 15; Length 10;
Best Local Similarity 77.8%; Pred. No. 0.28;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 2 HWSHGWCYPG 10
DB 2 HWAHCWCYPG 10
RESULT 16
US-10-360-101-159
; Sequence 159, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 159
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,A4,S6,C10)-sequence of LHRH2
US-10-360-101-159

Query Match 75.3%; Score 55; DB 15; Length 10;
Best Local Similarity 66.7%; Pred. No. 0.37;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 9
DB 1 QHWAHWCYPG 9
RESULT 17
US-10-170-096A-33
; Sequence 33, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University of New Hampshire
; APPLICANT: Sower, Stacia A
; APPLICANT: Silver, Matt
; TITLE OF INVENTION: No. US20030236184A1el Polynucleotides Encoding Lamprey GnRH-III
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37

```
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 33
; LENGTH: 10
; TYPE: PRT
; ORGANISM: dogfish
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (1)..(1)
; OTHER INFORMATION: X at position 1 = pGlu
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (10)..(10)
; OTHER INFORMATION: X at position 10 = Gly-NH2
US-10-170-096A-33

Query Match          74.0%; Score 54; DB 15; Length 10;
Best Local Similarity 87.5%; Pred. No. 0.51;
Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      2 HWSHGWP 9
Db      2 HWSHGLP 9

RESULT 18
US-10-360-101-145
; Sequence 145, Application US/10360101
; Publication No. US2004000950A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 145
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (S1,A4,C5)-sequence of LHRH2
US-10-360-101-145

Query Match          74.0%; Score 54; DB 15; Length 10;
Best Local Similarity 77.8%; Pred. No. 0.51;
Matches 7; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY      2 HWSHGWP 10
Db      2 HWACGWP 10

RESULT 19
US-10-170-096A-6
; Sequence 6, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University Of New Hampshire
; APPLICANT: Sower, Stacia A
; TITLE OF INVENTION: No. US20030236184A1 Polynucleotides Encoding Lamprey GnRH-III
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
; LENGTH: 92
; TYPE: PRT

; ORGANISM: l. tridentatus
US-10-170-096A-6

Query Match          74.0%; Score 54; DB 15; Length 92;
Best Local Similarity 70.0%; Pred. No. 3.1;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY      1 EHWSHGWYPG 10
Db      25 QWSHDWKPG 34

RESULT 20
US-10-170-096A-8
; Sequence 8, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University Of New Hampshire
; APPLICANT: Sower, Stacia A
; TITLE OF INVENTION: No. US20030236184A1 Polynucleotides Encoding Lamprey GnRH-III
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 8
; LENGTH: 93
; TYPE: PRT
; ORGANISM: P. marinus
US-10-170-096A-8

Query Match          74.0%; Score 54; DB 15; Length 93;
Best Local Similarity 70.0%; Pred. No. 3.2;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY      1 EHWSHGWYPG 10
Db      25 QWSHDWKPG 34

RESULT 21
US-10-170-096A-2
; Sequence 2, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University Of New Hampshire
; APPLICANT: Sower, Stacia A
; TITLE OF INVENTION: No. US20030236184A1 Polynucleotides Encoding Lamprey GnRH-III
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 94
; TYPE: PRT
; ORGANISM: G. australis
US-10-170-096A-2

Query Match          74.0%; Score 54; DB 15; Length 94;
Best Local Similarity 70.0%; Pred. No. 3.2;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY      1 EHWSHGWYPG 10
Db      26 QWSHDWKPG 35

RESULT 22
US-10-360-101-305
; Sequence 305, Application US/10360101
```

```
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Siler-Khodr, Theresa M.
; TITLE OF INVENTION: No. US20020065226A1-Mammalian GnRH Analogs and Uses Thereof in R:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Pregnancy
; FILE REFERENCE: P7345.2(CIP)
; CURRENT APPLICATION NUMBER: US/09/941.094A
; PRIOR FILING DATE: 2001-08-28
; PRIOR APPLICATION NUMBER: US 09/419,161
; PRIOR FILING DATE: 1999-10-15
; NUMBER OF SEQ ID NOS: 4
; SEQ ID NO 4
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Salmo salar
; NAME/KEY: mat_peptide
; FEATURE:
; LOCATION: unknown
; OTHER INFORMATION: MOD RES substitution of Gly residue at 10 with aza-Gly-NH2. Xaa
; OTHER INFORMATION: D-Arg. MOD_RES Glu at position 1 is Pyroglutamic acid.
; US-09-941-094A-4

Query Match 71.2%; Score 52; DB 9; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.93;
Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 EHWYXWLP 10

RESULT 25
US-10-360-101-157
; Sequence 157, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 157
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,A4,S5,C10)-sequence of LHRH2
; US-10-360-101-157

Query Match 71.2%; Score 52; DB 15; Length 10;
Best Local Similarity 66.7%; Pred. No. 0.93;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYP 9
Db 1 QHWASGWYP 9

RESULT 26
US-10-617-561-16
; Sequence 16, Application US/10617561
; Publication No. US20040018967A1
; GENERAL INFORMATION:
; APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors
; Enright, Frederick M.
; Jaynes, Jesse M.
; Hansel, William
; Koonce, Kenneth L.
; McCann, Samuel M.

; Publication No. US20040009550A1e = "A" on pos. 6 and 9 are linked by "S"
; US-10-360-101-305

Query Match 72.6%; Score 53; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.69;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 QHWAHAWYAG 10

RESULT 23
US-10-360-101-306
; Sequence 306, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 306
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: LHRH2 analogue
; NAME/KEY: SITE
; LOCATION: (4)...(7)
; OTHER INFORMATION: No. US20040009550A1e = "A" on pos. 4 and 7 are linked by "S"
; US-10-360-101-306

Query Match 72.6%; Score 53; DB 15; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.69;
Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 QHWAHAWYAG 10

RESULT 24
US-09-941-094A-4
; Sequence 4, Application US/09941094A
; Patent No. US20020065226A1
```

Yu, Wen H.
Melrose, Patricia A.
Foill, Lane D.
Elzer, Philip H.
TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and Methods of Use
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: John H. Rannels
STREET: P. O. Box 2471
CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/10/617,561
FILING DATE: 11-Jul-2003
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/09/381,879
FILING DATE: 25-Aug-1999
ATTORNEY/AGENT INFORMATION:
NAME: Rannels, John H.
REGISTRATION NUMBER: 33,451
REFERENCE/DOCKET NUMBER: 96A3.2-US
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..10
OTHER INFORMATION: /note= "Xaa in position 1 denotes pyro-glutamic acid. This sequence is 1-LHRH-III."
SEQUENCE DESCRIPTION: SEQ ID NO: 16:
US-10-617-561-16
Query Match 71.2%; Score 52; DB 15; Length 10;
Best Local Similarity 77.8%; Pred. No. 0.93;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 2 HWSHGWYPG 10
Db 2 HWSHDWKP 10
RESULT 27
US-10-617-561-15
Sequence 15, Application US/10617561
Publication No. US20040018967A1
GENERAL INFORMATION:
APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors
Enright, Frederick M.
Jaynes, Jesse M.
Hansel, William
Koonce, Kenneth L.
McCann, Samuel M.
Yu, Wen H.
Melrose, Patricia A.
Foill, Lane D.
Elzer, Philip H.
TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and Methods of Use

NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: John H. Rannels
STREET: P. O. Box 2471
CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/10/617,561
FILING DATE: 11-Jul-2003
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/09/381,879
FILING DATE: 25-Aug-1999
ATTORNEY/AGENT INFORMATION:
NAME: Rannels, John H.
REGISTRATION NUMBER: 33,451
REFERENCE/DOCKET NUMBER: 96A3.2-US
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 33 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..33
OTHER INFORMATION: /note= "Xaa in position 1 denotes pyro-glutamic acid. This sequence is an 1-LHRH-III/hecate fusion peptide."
SEQUENCE DESCRIPTION: SEQ ID NO: 15:
US-10-617-561-15
Query Match 71.2%; Score 52; DB 15; Length 33;
Best Local Similarity 77.8%; Pred. No. 2.5;
Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 2 HWSHGWYPG 10
Db 2 HWSHDWKP 10
RESULT 28
US-10-360-101-158
Sequence 158, Application US/10360101
Publication No. US20040009550A1
GENERAL INFORMATION:
APPLICANT: Moll, Gert N.
APPLICANT: Leenhouts, Cornelis J.
TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
FILE REFERENCE: 2183-5673
CURRENT APPLICATION NUMBER: US/10/360,101
CURRENT FILING DATE: 2003-02-07
PRIOR APPLICATION NUMBER: EP 02077060.8
NUMBER OF SEQ ID NOS: 309
SOFTWARE: Patent in version 3.1
SEQ ID NO 158
LENGTH: 10
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: (Q1,A4,S6,C9)-sequence of LHRH2
US-10-360-101-158

Query Match 69.9%; Score 51; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1.3;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYGP 10
Db 1 QHWAHSWYCG 10

RESULT 29
US-10-170-096A-4
; Sequence 4, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University Of New Hampshire
; APPLICANT: Sower, Stacia A
; APPLICANT: Silver, Matt
; TITLE OF INVENTION: No. US20030236184A1 Polynucleotides Encoding Lamprey GnRH-III
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 92
; TYPE: PRT
; ORGANISM: m. mordax
US-10-170-096A-4

Query Match 69.9%; Score 51; DB 15; Length 92;
Best Local Similarity 60.0%; Pred. No. 7.8;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYGP 10
Db 25 QHWHDWKPG 34

RESULT 30
US-10-360-101-148
; Sequence 148, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 148
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,S2,A4,C6)-sequence of LHRH2
US-10-360-101-148

Query Match 67.1%; Score 49; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 2.3;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYGP 10
Db 1 QSWAHGWYGP 10

RESULT 31
US-10-360-101-155

Sequence 155, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 155
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,A4,S5,C8)-sequence of LHRH2
US-10-360-101-155

Query Match 67.1%; Score 49; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 2.3;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYGP 10
Db 1 QHWSGWYGP 10

RESULT 32
US-10-109-331-4
; Sequence 4, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:

Query Match 69.9%; Score 51; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1.3;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYGP 10
Db 1 QHWAHSWYCG 10

RESULT 29
US-10-170-096A-4
; Sequence 4, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University Of New Hampshire
; APPLICANT: Sower, Stacia A
; APPLICANT: Silver, Matt
; TITLE OF INVENTION: No. US20030236184A1 Polynucleotides Encoding Lamprey GnRH-III
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 92
; TYPE: PRT
; ORGANISM: m. mordax
US-10-170-096A-4

Query Match 69.9%; Score 51; DB 15; Length 92;
Best Local Similarity 60.0%; Pred. No. 7.8;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYGP 10
Db 25 QHWHDWKPG 34

RESULT 30
US-10-360-101-148
; Sequence 148, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 148
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,S2,A4,C6)-sequence of LHRH2
US-10-360-101-148

Query Match 67.1%; Score 49; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 2.3;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 1 EHWSHGWYGP 10
Db 1 QSWAHGWYGP 10

RESULT 31
US-10-360-101-155

OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
at 10 is Gly-NH2"
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-10-109-331-4

Query Match 65.8%; Score 48; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 3.2;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
|||:||||
Db 2 HWSYGLP 9

RESULT 33

US-10-170-096A-28
; Sequence 28, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University Of New Hampshire
; APPLICANT: Sower, Stacia A
; APPLICANT: Silver, Matt
; TITLE OF INVENTION: NO. US20030236184A1el Polynucleotides Encoding Lamprey GnRH-III
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 28
; LENGTH: 10
; TYPE: PRT
; ORGANISM: salmon
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (1)..(1)
; OTHER INFORMATION: X at position 1 = pGlu
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (10)..(10)
; OTHER INFORMATION: X at position 10 = Gly-NH2
US-10-170-096A-28

Query Match 65.8%; Score 48; DB 15; Length 10;
Best Local Similarity 75.0%; Pred. No. 3.2;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
|||:||||
Db 2 HWSYGLP 9

RESULT 34

US-10-360-101-156
; Sequence 156, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 156
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,A4,S5,C9)-sequence of LHRH2
US-10-360-101-156

Query Match 65.8%; Score 48; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 3.2;
Matches 6; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 EHWSHGWPG 10
|||:||||
Db 1 QHWASGWYCG 10

RESULT 35

US-10-109-331-7
; Sequence 7, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: PSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rummels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25;
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Rummels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 7:
US-10-109-331-7

Query Match 64.4%; Score 47; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 4.3;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
|||:||||
Db 2 HWSHAWP 9

RESULT 36

US-10-360-101-147
; Sequence 147, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.

```
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 147
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,S2,A4,CS)-sequence of LHRH2
US-10-360-101-147

Query Match 64.4%; Score 47; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 4.3;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 10
Db 1 QSWACGWYPG 10

RESULT 37
US-10-360-101-160
; Sequence 160, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 160
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,A4,S7,C10)-sequence of LHRH2
US-10-360-101-160

Query Match 64.4%; Score 47; DB 15; Length 10;
Best Local Similarity 66.7%; Pred. No. 4.3;
Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 EHWSHGWYPG 9
Db 1 QHWAGSGYP 9

RESULT 38
US-10-109-331-1
; Sequence 1, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
```

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; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; WordPerfect 5.1; No. US20020165159A1epad Version 4.0
; CURRENT APPLICATION DATA: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu; Xaa
; at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 1:
US-10-109-331-1

Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHDWRP 9

RESULT 39
US-10-109-331-9
; Sequence 9, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; APPLICANT: Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Runnels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; WordPerfect 5.1; No. US20020165159A1epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Runnels, John H.
```

```

;
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; Xaa at 6 is (D-Ala); Xaa at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 9:
US-10-109-331-9

Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHXKP 9

RESULT 40
US-10-109-331-13
; Sequence 13, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rannels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; WordPerfect 5.1; No. US20020165159A1epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Rannels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; Xaa at 6 is (D-Leu); Xaa at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 13:
US-10-109-331-13

Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHXKP 9

RESULT 41
US-10-109-331-15
; Sequence 15, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rannels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; WordPerfect 5.1; No. US20020165159A1epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Rannels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 15:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; Xaa at 6 is (SerBut); Xaa at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 15:
US-10-109-331-15

Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHXKP 9

RESULT 42
US-10-109-331-17
; Sequence 17, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rannels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; WordPerfect 5.1; No. US20020165159A1epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Rannels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 17:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; Xaa at 6 is (D-Leu); Xaa at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 17:
US-10-109-331-17
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Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHXKP 9

RESULT 41
US-10-109-331-15
; Sequence 15, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rannels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; WordPerfect 5.1; No. US20020165159A1epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Rannels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 15:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; Xaa at 6 is (SerBut); Xaa at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 15:
US-10-109-331-15

Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHXKP 9

RESULT 42
US-10-109-331-17
; Sequence 17, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; Yu, Wen H.
; TITLE OF INVENTION: FSH-Releasing Peptides
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. Rannels
; STREET: P. O. Box 2471
; CITY: Baton Rouge
; STATE: LA
; COUNTRY: USA
; ZIP: 70821-2471
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25;
; WordPerfect 5.1; No. US20020165159A1epad Version 4.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/109,331
; FILING DATE: 28-Mar-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/09/297,989
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Rannels, John H.
; REGISTRATION NUMBER: 33451
; REFERENCE/DOCKET NUMBER: 9703P-US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (225) 387-3221
; TELEFAX: (225) 346-8049
; INFORMATION FOR SEQ ID NO: 17:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
; Xaa at 6 is (D-Leu); Xaa at 10 is Gly-NH2"
; SEQUENCE DESCRIPTION: SEQ ID NO: 17:
US-10-109-331-17
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SOFTWARE: PatentIn Release #1.0, Version #1.25;
WordPerfect 5.1; No. US20020165159A1eapd Version 4.0

LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
Xaa at 6 is (His-Bzl); Xaa at 10 is Gly-NH2"
SEQUENCE DESCRIPTION: SEQ ID NO: 23;
US-10-109-331-23

Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 5; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 2 HWSHGWP 9
Db 2 HWSHXWK 9

RESULT 45

US-10-109-331-25
; Sequence 25, Application US/10109331
; Publication No. US20020165159A1
; GENERAL INFORMATION:
; APPLICANT: McCann, Samuel M.
; Yu, Wen H.

TITLE OF INVENTION: FSH-Releasing Peptides

NUMBER OF SEQUENCES: 41

CORRESPONDENCE ADDRESS:

ADDRESSEE: John H. Runnels

STREET: P. O. Box 2471

CITY: Baton Rouge

STATE: LA

COUNTRY: USA

ZIP: 70821-2471

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25;

CURRENT APPLICATION DATA: WordPerfect 5.1; No. US20020165159A1eapad Version 4.0

APPLICATION NUMBER: US/10/109,331

FILING DATE: 28-Mar-2002

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/09/297,989

FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:

NAME: Runnels, John H.

REGISTRATION NUMBER: 33451

REFERENCE/DOCKET NUMBER: 9703P-US

TELECOMMUNICATION INFORMATION:

TELEPHONE: (225) 387-3221

TELEFAX: (225) 346-8049

INFORMATION FOR SEQ ID NO: 25:

SEQUENCE CHARACTERISTICS:

LENGTH: 10 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide

FEATURE:

OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;

Xaa at 6 is (D-His-Bzl); Xaa at 10 is Gly-NH2"

SEQUENCE DESCRIPTION: SEQ ID NO: 25;

US-10-109-331-25

Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 2 HWSHGWP 9
Db 2 HWSHXWK 9

Db 2 HWSHXWK 9

RESULT 46

US-10-109-331-27

; Sequence 27, Application US/10109331

; Publication No. US20020165159A1

; GENERAL INFORMATION:

; APPLICANT: McCann, Samuel M.

; Yu, Wen H.

TITLE OF INVENTION: FSH-Releasing Peptides

NUMBER OF SEQUENCES: 41

CORRESPONDENCE ADDRESS:

ADDRESSEE: John H. Runnels

STREET: P. O. Box 2471

CITY: Baton Rouge

STATE: LA

COUNTRY: USA

ZIP: 70821-2471

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25;

CURRENT APPLICATION DATA: WordPerfect 5.1; No. US20020165159A1eapad Version 4.0

APPLICATION NUMBER: US/10/109,331

FILING DATE: 28-Mar-2002

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/09/297,989

FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:

NAME: Runnels, John H.

REGISTRATION NUMBER: 33451

REFERENCE/DOCKET NUMBER: 9703P-US

TELECOMMUNICATION INFORMATION:

TELEPHONE: (225) 387-3221

TELEFAX: (225) 346-8049

INFORMATION FOR SEQ ID NO: 27:

SEQUENCE CHARACTERISTICS:

LENGTH: 10 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide

FEATURE:

OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;

Xaa at 6 is Nal(2); Xaa at 10 is Gly-NH2"

SEQUENCE DESCRIPTION: SEQ ID NO: 27;

US-10-109-331-27

Query Match 63.0%; Score 46; DB 13; Length 10;

Best Local Similarity 75.0%; Pred. No. 5.8;

Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 2 HWSHGWP 9

Db 2 HWSHXWK 9

RESULT 47

US-10-109-331-29

; Sequence 29, Application US/10109331

; Publication No. US20020165159A1

; GENERAL INFORMATION:

; APPLICANT: McCann, Samuel M.

; Yu, Wen H.

TITLE OF INVENTION: FSH-Releasing Peptides

NUMBER OF SEQUENCES: 41

CORRESPONDENCE ADDRESS:

ADDRESSEE: John H. Runnels

STREET: P. O. Box 2471

CITY: Baton Rouge

```
/
/
/ STATE: LA
/ COUNTRY: USA
/ ZIP: 70821-2471
/
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: Patent In Release #1.0, Version #1.25;
/ WordPerfect 5.1; No. US20020165159Alepap Version 4.0
/
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/10/109,331
/ FILING DATE: 28-Mar-2002
/ CLASSIFICATION: <unknown>
/
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US/09/297,989
/ FILING DATE: <unknown>
/
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Runnels, John H.
/ REGISTRATION NUMBER: 33451
/ REFERENCE/DOCKET NUMBER: 9703P-US
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (225) 387-3221
/ TELEFAX: (225) 346-8049
/
/ INFORMATION FOR SEQ ID NO: 29:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 10 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
/ MOLECULE TYPE: peptide
/
/ FEATURE:
/ OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
/ Xaa at 6 is (D-Nal(2)); Xaa at 10 is Gly-NH2"
/
/ SEQUENCE DESCRIPTION: SEQ ID NO: 29:
US-10-109-331-29
Query Match 63.0%; Score 45; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHWKP 9

RESULT 48
US-10-109-331-31
/ Sequence 31, Application US/10109331
/ Publication No. US20020165159A1
/ GENERAL INFORMATION:
/ APPLICANT: McCann, Samuel M.
/ Yu, Wen H.
/
/ TITLE OF INVENTION: FSH-Releasing Peptides
/ NUMBER OF SEQUENCES: 41
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: John H. Runnels
/ STREET: P. O. Box 2471
/ CITY: Baton Rouge
/ STATE: LA
/ COUNTRY: USA
/ ZIP: 70821-2471
/
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: Patent In Release #1.0, Version #1.25;
/ WordPerfect 5.1; No. US20020165159Alepap Version 4.0
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/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/10/109,331
/ FILING DATE: 28-Mar-2002
/ CLASSIFICATION: <unknown>
/
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US/09/297,989
/ FILING DATE: <unknown>
/
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Runnels, John H.
/ REGISTRATION NUMBER: 33451
/ REFERENCE/DOCKET NUMBER: 9703P-US
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (225) 387-3221
/ TELEFAX: (225) 346-8049
/
/ INFORMATION FOR SEQ ID NO: 31:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 10 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
/ MOLECULE TYPE: peptide
/
/ FEATURE:
/ OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
/ Xaa at 6 is (D-Nal(2)); Xaa at 10 is (aza-Gly)"
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/ SEQUENCE DESCRIPTION: SEQ ID NO: 31:
US-10-109-331-31
Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHWKP 9

RESULT 49
US-10-109-331-32
/ Sequence 32, Application US/10109331
/ Publication No. US20020165159A1
/ GENERAL INFORMATION:
/ APPLICANT: McCann, Samuel M.
/ Yu, Wen H.
/
/ TITLE OF INVENTION: FSH-Releasing Peptides
/ NUMBER OF SEQUENCES: 41
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: John H. Runnels
/ STREET: P. O. Box 2471
/ CITY: Baton Rouge
/ STATE: LA
/ COUNTRY: USA
/ ZIP: 70821-2471
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/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: Patent In Release #1.0, Version #1.25;
/ WordPerfect 5.1; No. US20020165159Alepap Version 4.0
/
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/10/109,331
/ FILING DATE: 28-Mar-2002
/ CLASSIFICATION: <unknown>
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/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US/09/297,989
/ FILING DATE: <unknown>
/
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Runnels, John H.
/ REGISTRATION NUMBER: 33451
/ REFERENCE/DOCKET NUMBER: 9703P-US
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (225) 387-3221
/ TELEFAX: (225) 346-8049
/
/ INFORMATION FOR SEQ ID NO: 32:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 10 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
/ MOLECULE TYPE: peptide
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/ FEATURE:
/ OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
/ Xaa at 6 is (D-Nal(2)); Xaa at 10 is (aza-Gly)"
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US-10-109-331-32
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/ STATE: LA
/ COUNTRY: USA
/ ZIP: 70821-2471
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/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: Patent In Release #1.0, Version #1.25;
/ WordPerfect 5.1; No. US20020165159Alepap Version 4.0
/
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/10/109,331
/ FILING DATE: 28-Mar-2002
/ CLASSIFICATION: <unknown>
/
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US/09/297,989
/ FILING DATE: <unknown>
/
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Runnels, John H.
/ REGISTRATION NUMBER: 33451
/ REFERENCE/DOCKET NUMBER: 9703P-US
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (225) 387-3221
/ TELEFAX: (225) 346-8049
/
/ INFORMATION FOR SEQ ID NO: 31:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 10 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
/ MOLECULE TYPE: peptide
/
/ FEATURE:
/ OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
/ Xaa at 6 is Nal(2); Xaa at 10 is (aza-Gly)"
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/ SEQUENCE DESCRIPTION: SEQ ID NO: 31:
US-10-109-331-31
Query Match 63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 HWSHGWP 9
Db 2 HWSHWKP 9

RESULT 49
US-10-109-331-32
/ Sequence 32, Application US/10109331
/ Publication No. US20020165159A1
/ GENERAL INFORMATION:
/ APPLICANT: McCann, Samuel M.
/ Yu, Wen H.
/
/ TITLE OF INVENTION: FSH-Releasing Peptides
/ NUMBER OF SEQUENCES: 41
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: John H. Runnels
/ STREET: P. O. Box 2471
/ CITY: Baton Rouge
/ STATE: LA
/ COUNTRY: USA
/ ZIP: 70821-2471
/
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: Patent In Release #1.0, Version #1.25;
/ WordPerfect 5.1; No. US20020165159Alepap Version 4.0
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/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/10/109,331
/ FILING DATE: 28-Mar-2002
/ CLASSIFICATION: <unknown>
/
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US/09/297,989
/ FILING DATE: <unknown>
/
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Runnels, John H.
/ REGISTRATION NUMBER: 33451
/ REFERENCE/DOCKET NUMBER: 9703P-US
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (225) 387-3221
/ TELEFAX: (225) 346-8049
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/ INFORMATION FOR SEQ ID NO: 32:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 10 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
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/
/ FEATURE:
/ OTHER INFORMATION: /note= "Xaa at 1 is pyro-Glu;
/ Xaa at 6 is (D-Nal(2)); Xaa at 10 is (aza-Gly)"
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US-10-109-331-32
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; SEQUENCE DESCRIPTION: SEQ ID NO: 32:
US-10-109-331-32
Query Match      63.0%; Score 46; DB 13; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY      2 HWSHGWYP 9
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Db      2 HWSHWKP 9

RESULT 50
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; Sequence 35, Application US/10170096A
; Publication No. US20030236184A1
; GENERAL INFORMATION:
; APPLICANT: University Of New Hampshire
; APPLICANT: Sower, Stacia A
; APPLICANT: Silver, Matt
; FILE REFERENCE: 9815/59339
; CURRENT APPLICATION NUMBER: US/10/170,096A
; CURRENT FILING DATE: 2002-08-08
; NUMBER OF SEQ ID NOS: 37
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 35
; LENGTH: 10
; TYPE: PRT
; ORGANISM: lamprey
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (1)..(1)
; OTHER INFORMATION: X at position 1 = pglu
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (10)..(10)
; OTHER INFORMATION: X at position 10 = Gly-NH2
US-10-170-096A-35

Query Match      63.0%; Score 46; DB 15; Length 10;
Best Local Similarity 75.0%; Pred. No. 5.8;
Matches 6; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY      2 HWSHGWYP 9
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Db      2 HWSHDWKP 9

Search completed: March 2, 2004, 19:30:04
Job time : 31 secs
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102	44	88.0	10	6	Aao31034	Mus muscu	175	44	88.0	30	3	AAY68610	Peptide i
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154	44	88.0	27	3	AAy91185	HBV surfa	227	44	88.0	45	7	ADD89949	LHRH pept
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157	44	88.0	28	2	AAR62698	LHRH-cont	230	44	88.0	46	3	AAy91195	Inv epitro
158	44	88.0	28	2	AAE62726	LHRH-cont	231	44	88.0	47	2	AAR62723	LHRH-cont
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284	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	357	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
285	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	358	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
286	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	359	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
287	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	360	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
288	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	361	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
289	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	362	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
290	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	363	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
291	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	364	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
292	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	365	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
293	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	366	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
294	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	367	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
295	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	368	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
296	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	369	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
297	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	370	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
298	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	371	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
299	43	86.0	10	1	AAI960091	Aay960091 GnRH tetr	372	41	82.0	18	3	AAW44956	Aaw44956 E. coli f
300	42	84.0	10	4	AAO31048	Aao31048 Pacific h	373	41	82.0	22	5	AAU13714	Aau13714 DP178-lik
301	42	84.0	10	4	AAO31048	Aao31048 Pacific h	374	41	82.0	22	5	AAU13714	Aau13714 DP178-lik
302	42	84.0	10	4	AAO31048	Aao31048 Pacific h	375	41	82.0	26	3	AAW89759	Aaw89759 Core poly
303	42	84.0	10	4	AAO31048	Aao31048 Pacific h	376	41	82.0	26	3	AAW89759	Aaw89759 Core poly
304	42	84.0	10	4	AAO31048	Aao31048 Pacific h	377	41	82.0	26	4	AAW89759	Aaw89759 Core poly
305	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	378	41	82.0	26	4	AAW89759	Aaw89759 Core poly
306	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	379	41	82.0	26	4	AAW89759	Aaw89759 Core poly
307	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	380	41	82.0	26	4	AAW89759	Aaw89759 Core poly
308	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	381	41	82.0	26	4	AAW89759	Aaw89759 Core poly
309	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	382	41	82.0	26	4	AAW89759	Aaw89759 Core poly
310	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	383	41	82.0	26	4	AAW89759	Aaw89759 Core poly
311	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	384	41	82.0	26	4	AAW89759	Aaw89759 Core poly
312	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	385	41	82.0	26	4	AAW89759	Aaw89759 Core poly
313	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	386	41	82.0	26	4	AAW89759	Aaw89759 Core poly
314	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	387	41	82.0	26	4	AAW89759	Aaw89759 Core poly
315	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	388	41	82.0	26	4	AAW89759	Aaw89759 Core poly
316	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	389	41	82.0	26	4	AAW89759	Aaw89759 Core poly
317	41	82.0	10	2	AAW16390	Aaw16390 Gonadotro	390	41	82.0	26	4	AAW89759	Aaw89759 Core poly

391	41	82.0	49	2	AAW61542	Peptide h	464	38	76.0	10	1.	AAW71229	Luteinisi
392	41	82.0	49	3	AAW58363	Four-copy	465	38	76.0	10	2	AAW15715	Peptide #
393	41	82.0	49	3	AAW58135	GnRH anal	466	38	76.0	10	2	AAW15714	Peptide #
394	41	82.0	69	1	AAW61428	GAP fusio	467	38	76.0	10	2	AAW11847	Example c
395	41	82.0	92	1	AAW61427	Human pre	468	38	76.0	10	2	AAW10699	LHR anal
396	41	82.0	92	1	AAW05182	Human PRO	469	38	76.0	10	2	AAW29703	Goserelin
397	41	82.0	92	7	AAW05182	Human PRO	470	38	76.0	10	2	AAW47844	pGLu-His-
398	41	82.0	92	7	AAW05182	Human PRO	471	38	76.0	10	2	AAW47844	pGLu-His-
399	41	82.0	544	2	AAW03943	LKT-GnRH	472	38	76.0	10	4	AAW60071	Luteinisi
400	41	82.0	544	2	AAW03943	LKT-GnRH	473	38	76.0	10	4	AAW60071	Luteinisi
401	41	82.0	695	3	AAW79573	LKT-GnRH	474	38	76.0	10	6	AAW29841	Gonadotro
402	41	82.0	695	3	AAW79573	LKT-GnRH	475	38	76.0	10	6	AAW29841	Gonadotro
403	41	82.0	695	3	AAW58133	Leukotoxi	476	38	76.0	10	6	AAW8926	Guinea pi
404	41	82.0	936	2	AAW34547	GnRH-leuk	477	38	76.0	10	6	AAW8926	Guinea pi
405	41	82.0	977	2	AAW03942	LKT-GnRH	478	38	76.0	10	5	AAW06171	Gonadotro
406	41	82.0	977	2	AAW03942	LKT-GnRH	479	38	76.0	10	5	AAW06171	Gonadotro
407	40	80.0	9	2	AAW79760	Seabream	480	38	76.0	10	4	AAW06639	G6A-GnRH
408	40	80.0	10	6	AAW8924	Gonadotro	481	37	74.0	9	1	AAW05011	Human foe
409	40	80.0	10	6	AAW8924	Gonadotro	482	37	74.0	10	1	AAW05011	Sequence
410	40	80.0	10	6	AAW31055	Spiny dog	483	37	74.0	10	1	AAW10412	Luteinisi
411	40	80.0	10	6	AAW31055	Spiny dog	484	37	74.0	10	1	AAW10412	Luteinisi
412	40	80.0	10	6	AAW31055	Spiny dog	485	37	74.0	10	1	AAW10412	Luteinisi
413	40	80.0	10	6	AAW31058	Pacific h	486	37	74.0	10	1	AAW10412	Luteinisi
414	40	80.0	85	2	AAW75149	H. burton	487	37	74.0	10	1	AAW10412	Luteinisi
415	40	80.0	89	2	AAW75150	Treeshrew	488	37	74.0	10	1	AAW10412	Luteinisi
416	40	80.0	120	5	AAW15401	Human gon	489	37	74.0	10	1	AAW10412	Luteinisi
417	40	80.0	120	5	AAW15401	Human gon	490	37	74.0	10	1	AAW10412	Luteinisi
418	39	78.0	9	2	AAW4891	LHRH pept	491	37	74.0	10	1	AAW10412	Luteinisi
419	39	78.0	9	3	AAW15363	Human LHR	492	37	74.0	10	1	AAW10412	Luteinisi
420	39	78.0	9	3	AAW15363	Human LHR	493	37	74.0	10	1	AAW10412	Luteinisi
421	39	78.0	9	3	AAW08104	Amino aci	494	37	74.0	10	1	AAW10412	Luteinisi
422	39	78.0	9	4	AAW09083	Luteinisi	495	37	74.0	10	1	AAW10412	Luteinisi
423	39	78.0	9	4	AAW09079	Luteinisi	496	37	74.0	10	1	AAW10412	Luteinisi
424	39	78.0	10	1	AAW10097	GnRH pept	497	37	74.0	10	2	AAW14141	LHRH anal
425	39	78.0	10	1	AAW10097	GnRH pept	498	37	74.0	10	2	AAW14141	LHRH anal
426	39	78.0	10	1	AAW83017	Sequence	499	37	74.0	10	2	AAW29984	LHRH pept
427	39	78.0	10	5	AAW76982	Luteinisi	500	37	74.0	10	2	AAW29984	LHRH pept
428	39	78.0	10	5	AAW76982	Luteinisi							
429	39	78.0	10	5	AAW76982	Luteinisi							
430	39	78.0	10	5	AAW76982	Luteinisi							
431	39	78.0	20	2	AAW0673	Luteinisi							
432	39	78.0	20	2	AAW0673	Luteinisi							
433	39	78.0	21	5	AAW76114	pEIA-GnRH							
434	39	78.0	21	5	AAW76114	pEIA-GnRH							
435	39	78.0	28	5	AAW11422	Synthetic							
436	39	78.0	31	5	AAW11420	Synthetic							
437	39	78.0	31	5	AAW11426	Synthetic							
438	39	78.0	33	5	AAW11423	Synthetic							
439	39	78.0	34	5	AAW11421	Synthetic							
440	39	78.0	34	5	AAW11424	Synthetic							
441	39	78.0	36	5	AAW11427	Synthetic							
442	39	78.0	37	5	AAW11425	Synthetic							
443	39	78.0	46	5	AAW11430	Synthetic							
444	39	78.0	47	5	AAW11428	Synthetic							
445	39	78.0	50	5	AAW11429	Synthetic							
446	39	78.0	51	5	AAW11431	Synthetic							
447	39	78.0	277	4	AAW50423	Propionib							
448	39	78.0	277	6	AAW46942	Propionib							
449	39	78.0	414	6	AAW65766	Propionib							
450	38	76.0	9	1	AAW10414	Luteinisi							
451	38	76.0	9	1	AAW10414	Luteinisi							
452	38	76.0	9	2	AAW0568	Sequence							
453	38	76.0	9	2	AAW0568	Sequence							
454	38	76.0	9	2	AAW0568	Sequence							
455	38	76.0	9	2	AAW0568	Sequence							
456	38	76.0	9	4	AAW09985	Luteinisi							
457	38	76.0	9	6	AAW29840	Gonadotro							
458	38	76.0	10	1	AAW20403	LH-RH ana							
459	38	76.0	10	1	AAW20277	Modified							
460	38	76.0	10	1	AAW40404	Sequence							
461	38	76.0	10	1	AAW71316	Sequence							
462	38	76.0	10	1	AAW71363	Sequence							
463	38	76.0	10	1	AAW71226	Luteinisi							

ALIGNMENTS

RESULT 1

AAW7757

ID AAW7757 standard; peptide; 10 AA.

XX

AC AAW7757;

DT 27-AUG-1996 (first entry)

XX

DE Seabream gonadotropin releasing hormone.

XX

KW Gonadotropin releasing hormone; GnRH; sbGnRH; gonadoliberin; spawning;

XX

OS ovulation; fish farming; transgenic fish; seabream.

XX

XX Sparus aurata.

XX

XX Key Location/Qualifiers

XX Modified-site 1

XX /label= OTHER

XX /note= "pyroglutamic acid"

XX Modified-site 10

XX /note= "C-terminal amide"

XX

XX WO9617619-A1.

XX

XX 13-JUN-1996.

XX

XX 04-DEC-1995; 95WO-US015886.

XX

XX 05-DEC-1994; 94US-00341219.

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XX (UYMA-) UNIV MARYLAND BIOTECHNOLOGY INST.

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PA (UYVI-) UNIV VICTORIA INNOVATION & DEV CORP.
 XX Zohar Y, Sherwood NM, Rivier JEF, Powell J, Gothilf Y;
 XX WPI; 1996-286922/29.
 DR Novel seabream gonadotropin-releasing hormone and its analogues - useful
 XX for controlling gonadal development and spawning in fish.
 PT Claim 13; Page 51; 63pp; English.
 XX
 XX Seabream gonadotropin-releasing hormone (AAR97757), sbGnRH, influences
 CC the release of gonadotropins by the pituitary gland in fish. The sbGnRH
 CC precursor is obtd. by expression of a cDNA clone (AAR30666) isolated from
 CC seabream brain. sbGnRH or its analogues (see also AAR97750) may be
 CC administered to fish (e.g. by injection, implantation, dissolving in
 CC water or orally in feed) to induce gonadal development, or to induce and
 CC synchronise ovulation, spawning, sperm prodn. and spermiation
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 90.0%; Score 45; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. NO. 0.1;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXGXP 10
 DB 1 EHWXGXGXP 10
 RESULT 2
 ID ADA88936 standard; peptide; 10 AA.
 XX ADA88936;
 XX 20-NOV-2003 (first entry)
 DT Sea bream gonadotropin releasing hormone.
 DE gonadotropin releasing hormone; GnRH; muGnRH I; muGnRH II; Indian Murrel;
 XX fish; fish breeding; gonadotropin.
 KW Pagrus pagrus.
 XX
 XX Key Location/Qualifiers
 FH Modified-site 1 /note= "pyroglutamic acid"
 FT Modified-site 10 /note= "amidated"
 FT
 XX WO2003064460-A2.
 XX 07-AUG-2003.
 XX 10-JAN-2003; 2003WO-IN000015.
 XX 30-JAN-2002; 2002US-0353041P.
 XX (COUL) COUNCIL SCI & IND RES.
 XX Chatterjee A, Ray P, Dasgupta S, Bhattacharaya S, Pasha S;
 XX WPI; 2003-663464/62.
 XX New gonadotropin releasing hormones muGnRH I and muGnRH II useful for
 XX induced breeding in fishes.
 XX Disclosure; Fig 1; 23pp; English.
 XX The present invention describes gonadotropin releasing hormones (GnRH)
 CC muGnRH I (ADA88923) and muGnRH II (ADA88924), isolated from Indian Murrel
 CC fish. They can be used for inducing breeding in fishes both in
 CC combination and alone by activating production of gonadotropin. The GnRH
 CC peptide muGnRH I and muGnRH II have the amino acid sequences Gln-His-Trp-
 CC Ser-Ala-Trp-Arg-Leu-Pro-Gly (I) and Gln-His-Trp-Ser-Trp-Gly-Ile-Leu-Pro-
 CC Gly (II), respectively. Also described: (1) isolating and sequencing
 CC muGnRH I and muGnRH II; and (2) inducing breeding in fishes using GnRH
 CC comprising exposing fishes to GnRH to help release gonadotropin, and
 CC inducing breeding in fishes using the gonadotropin. The present sequence
 CC represents a GnRH amino acid sequence given in the exemplification of the
 CC present invention.

CC combination and alone by activating production of gonadotropin. The GnRH
 CC peptide muGnRH I and muGnRH II have the amino acid sequences Gln-His-Trp-
 CC Ser-Ala-Trp-Arg-Leu-Pro-Gly (I) and Gln-His-Trp-Ser-Trp-Gly-Ile-Leu-Pro-
 CC Gly (II), respectively. Also described: (1) isolating and sequencing
 CC muGnRH I and muGnRH II; and (2) inducing breeding in fishes using GnRH
 CC comprising exposing fishes to GnRH to help release gonadotropin, and
 CC inducing breeding in fishes using the gonadotropin. The present sequence
 CC represents a GnRH amino acid sequence given in the exemplification of the
 CC present invention.
 XX Sequence 10 AA;
 SQ
 Query Match 90.0%; Score 45; DB 6; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.1;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXGXP 10
 DB 1 EHWXGXGXP 10
 RESULT 3
 ID ADA88937 standard; peptide; 10 AA.
 XX ADA88937;
 XX 20-NOV-2003 (first entry)
 DT Herring gonadotropin releasing hormone.
 XX gonadotropin releasing hormone; GnRH; muGnRH I; muGnRH II; Indian Murrel;
 DE fish; fish breeding; gonadotropin.
 KW Clupea sp.
 XX
 XX Key Location/Qualifiers
 FH Modified-site 1 /note= "pyroglutamic acid"
 FT Modified-site 10 /note= "amidated"
 FT
 XX WO2003064460-A2.
 XX 07-AUG-2003.
 XX 10-JAN-2003; 2003WO-IN000015.
 XX 30-JAN-2002; 2002US-0353041P.
 XX (COUL) COUNCIL SCI & IND RES.
 XX Chatterjee A, Ray P, Dasgupta S, Bhattacharaya S, Pasha S;
 XX WPI; 2003-663464/62.
 XX New gonadotropin releasing hormones muGnRH I and muGnRH II useful for
 XX induced breeding in fishes.
 XX Disclosure; Fig 1; 23pp; English.
 XX The present invention describes gonadotropin releasing hormones (GnRH)
 CC muGnRH I (ADA88923) and muGnRH II (ADA88924), isolated from Indian Murrel
 CC fish. They can be used for inducing breeding in fishes both in
 CC combination and alone by activating production of gonadotropin. The GnRH
 CC peptide muGnRH I and muGnRH II have the amino acid sequences Gln-His-Trp-
 CC Ser-Ala-Trp-Arg-Leu-Pro-Gly (I) and Gln-His-Trp-Ser-Trp-Gly-Ile-Leu-Pro-
 CC Gly (II), respectively. Also described: (1) isolating and sequencing
 CC muGnRH I and muGnRH II; and (2) inducing breeding in fishes using GnRH
 CC comprising exposing fishes to GnRH to help release gonadotropin, and
 CC inducing breeding in fishes using the gonadotropin. The present sequence
 CC represents a GnRH amino acid sequence given in the exemplification of the
 CC present invention.

```

XX  Sequence 10 AA;
SQ
Query Match          90.0%; Score 45; DB 6; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.1;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY  1 EHWXGXKXPG 10
    |||||
DB  1 EHWSHGLSPG 10

RESULT 4
AAO31037
ID  AAO31037 standard; peptide; 10 AA.
XX
XX  AAO31037;
XX
XX  DT 06-OCT-2003 (first entry)
XX
XX  Dejerrey gonadotropin releasing hormone (pGnRH) peptide.
DE
XX
XX  Gonadotropin releasing hormone; GnRH-I; GnRH-II; T-cell related disease;
KW  congenital immune deficiency; acquired immune deficiency; hyperreactive;
KW  psychopathology; neoplastic disease; autoimmune disease; neuroprotective;
KW  pathopsychological disease; neurological disease; allograft rejection;
KW  graft-versus-host disease; allograft rejection; immunosuppressive;
KW  cytostatic; anti-HIV; allergic; gene therapy; pejerrey.
XX
XX  Menidia menidia.
OS
XX
XX  Key Location/Qualifiers
FH
XX  Modified-site 1
FT FT /note= "Pyroglutamic acid"
FT FT 10
FT FT /note= "C-terminal amide"
XX
XX  WO2003051272-A2.
PN
XX
XX  26-JUN-2003.
PD
XX
XX  17-DEC-2002; 2002WO-IL001014.
PF
XX
XX  17-DEC-2001; 2001IL-00147138.
PR
XX
XX  (YEDA ) YEDA RES & DEV CO LTD.
PA
XX
XX  Levite M, Koch Y;
XX
XX  WPI; 2003-523498/49.
XX
XX  Regulating activity of a T-cell population by providing a molecule that
PT  is capable of modifying an activity or expression level of GnRH-I or GnRH
PT  -II receptor to regulate GnRH-I or a GnRH-II mediated activity of the T-
PT  cell population.
XX
XX  Disclosure; Page 41; 177pp; English.
PS
XX
XX  The invention relates to a method for regulating activity of a T-cell
CC  population. The method comprising providing to the T-cell population a
CC  molecule that is selected to be capable of modifying an activity or
CC  expression level of a gonadotropin releasing hormone (GnRH)-I or a GnRH-
CC  II receptor to regulate GnRH-I or a GnRH-II mediated activity of a T-cell
CC  population. The method is useful for treating or preventing a T-cell
CC  related disease or condition characterised by abnormal T-cell activity,
CC  e.g. congenital immune deficiencies, acquired immune deficiencies,
CC  infection, psychopathology or neoplastic disease, autoimmune, allergic,
CC  hyperreactive, pathopsychological and neurological diseases and
CC  conditions, graft-versus-host disease, or allograft rejections. The
CC  invention is useful in gene therapy. The present sequence is pejerrey
CC  gonadotropin releasing hormone (pGnRH) peptide
XX
XX  Sequence 10 AA;
SQ

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Query Match 90.0%; Score 45; DB 6; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.1;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
 |||||
 Db 1 EHWXGLSPG 10

RESULT 6

AAO31036
 ID AAO31036 standard; peptide; 10 AA.

XX AC AAO31036;

XX DT 06-OCT-2003 (first entry)

XX DE Sea bream gonadotropin releasing hormone (sbGnRH) peptide.

XX KW Gonadotropin releasing hormone; GnRH-I; GnRH-II; T-cell related disease;
 KW congenital immune deficiency; acquired immune deficiency; hyperreactive;
 KW psychopathology; neoplastic disease; autoimmune disease; neuroprotective;
 KW pathophysiological disease; neurological disease; allograft rejection;
 KW graft-versus-host disease; allograft rejection; immunosuppressive;
 KW cytostatic; anti-HIV; allergic; gene therapy; sea bream.

XX OS Sparus aurata.

XX FH Key Location/Qualifiers

FT Modified-site 1 /note= "Pyroglutamic acid"

FT Modified-site 10 /note= "C-terminal amide"

FT WO2003051272-A2.

XX PN 26-JUN-2003.

XX PD 17-DEC-2002; 2002WO-IL001014.

XX PF 17-DEC-2001; 2001IL-00147136.

XX PR (YEDA) YEDA RES & DEV CO LTD.

XX PA Levite M, Koch Y;

XX PI WPI; 2003-523498/49.

XX DR Regulating activity of a T-cell population by providing a molecule that

PT is capable of modifying an activity or expression level of GnRH-I or GnRH

PT -II receptor to regulate GnRH-I or a GnRH-II mediated activity of the T-

PT cell population.

XX PS Disclosure; Page 41; 177pp; English.

XX CC The invention relates to a method for regulating activity of a T-cell

CC population. The method comprising providing to the T-cell population a

CC molecule that is selected to be capable of modifying an activity or

CC expression level of a gonadotropin releasing hormone (GnRH)-I or a GnRH-

CC II receptor to regulate GnRH-I or a GnRH-II mediated activity of a T-cell

CC population. The method is useful for treating or preventing a T-cell

CC related disease or condition characterised by abnormal T-cell activity,

CC e.g. congenital immune deficiencies, acquired immune deficiencies,

CC infection, psychopathology or neoplastic disease, autoimmune, allergic,

CC hyperreactive, pathophysiological and neurological diseases and

CC conditions, graft-versus-host disease, or allograft rejections. The

CC invention is useful in gene therapy. The present sequence is sea bream

CC gonadotropin releasing hormone (sbGnRH) peptide

XX SQ Sequence 10 AA;

Query Match 90.0%; Score 45; DB 6; Length 10;

Best Local Similarity 70.0%; Pred. No. 0.1;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
 |||||
 Db 1 EHWXGLSPG 10

RESULT 7

ABB76120
 ID ABB76120 standard; peptide; 21 AA.

XX AC ABB76120;

XX DT 15-JUL-2002 (first entry)

XX DE L7A-GnRH-tandem peptide.

XX KW Gonadotropin releasing hormone; GnRH; vaccine; prostate cancer;
 KW immunocastration; cytostatic; anabolic.

XX OS Mammalia.

XX OS Synthetic.

XX FH Key Location/Qualifiers

FT Misc-difference 7 /note= "wild-type Leu substituted by Ala"

FT Misc-difference 17 /note= "wild-type Leu substituted by Ala"

FT Misc-difference 21 /note= "C-terminal amide"

XX WO200222659-A2.

XX PN 21-MAR-2002.

XX PF 11-SEP-2001; 2001WO-NL000666.

XX PR 12-SEP-2000; 2000US-00659983.

XX PA (IDLE-) ID-LELYSTAD INST DIERHOUTDIJ EN DIERGEZ.

XX PI Meloen RH, Oonk HB, Turkstra JA;

XX DR WPI; 2002-393944/42.

XX PT Peptide for treating prostate cancer and immunocastration, comprises

PT modified gonadotropin releasing hormone decapeptide sequence which

PT allows for immunogenic response that allows for discrimination between

XX different types of GnRH.

XX PS Disclosure; Page 33; 43pp; English.

XX CC The present sequence is that of an alanine-replacement peptide of a

CC mammalian gonadotropin releasing hormone I (GnRH-I) tandem repeat peptide

CC derivatives of it (see ABB76114-23), were dimersed and conjugated to

CC ovalbumin. The peptides were tested for efficacy for immunocastration of

CC pigs. High efficacy was found for S4A and G10A GnRH-tandem peptides, with

CC moderate efficacy for the present L7A peptide. Preferred modified, GnRH-I

CC tandem peptides (see ABB76100-02) are used in vaccines to reduce testis

CC growth and to reduce testosterone to non-detectable levels. A single dose

CC of a claimed vaccine is effective for the immunocastration of pigs.

CC Vaccines comprising the modified GnRH-I-tandem peptides can also be used

CC to alter the reproduction or behaviour of a mammal, e.g. to sterilise

CC domestic animals, to treat aggressiveness in males, to prevent or treat

CC restlessness in male animals being fattened for slaughter, and to improve

CC meat quality in pigs. The peptide gives an immunogenic response that

CC allows for effective discrimination between GnRH-I and GnRH-II. In

CC humans, immunisation against GnRH, preferably selective against either

CC GnRH-I or GnRH-II, could be used in the treatment of prostate cancer

CC (claimed), breast cancer and some forms of pituitary carcinoma

XX

SQ Sequence 21 AA;
 Query Match 90.0%; Score 45; DB 5; Length 21;
 Best Local Similarity 70.0%; Pred. No. 0.21;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
 |||||
 Db 1 EHWYSGRPG 10

RESULT 8
 ABB76118
 ID ABB76118 standard; peptide; 21 AA.
 XX AC ABB76118;
 XX DT 15-JUL-2002 (first entry)
 XX DE Y5A-GnRH-tandem peptide.
 XX Gonadotropin releasing hormone; GnRH; vaccine; prostate cancer;
 XX immunocastration; cytostatic; anabolic.
 XX OS Mammalia.
 XX OS Synthetic.
 XX Key Location/Qualifiers
 FH Misc-difference 5 /note= "wild-type Tyr substituted by Ala"
 FT Misc-difference 15 /note= "wild-type Tyr substituted by Ala"
 FT Misc-difference 21 /note= "C-terminal amide"
 FT FT
 PN WO200222659-A2.
 XX PD 21-MAR-2002.
 XX PF 11-SEP-2001; 2001WO-NL000666.
 XX PR 12-SEP-2000; 2000US-00659983.
 XX PA (IDLE-) ID-LELYSTAD INST DIERHOUDERIJ EN DIERGEZ.
 XX PI Melloen RH, Oonk HB, Turkstra JA;
 XX WPI; 2002-393944/42.
 XX Peptide for treating prostate cancer and immunocastration, comprises
 PT modified gonadotrophin releasing hormone decapeptide sequence which
 PT allows for immunogenic response that allows for discrimination between
 PT different types of GnRH.
 XX FS Disclosure; Page 33; 43pp; English.
 XX The present sequence is that of an alanine-replacement peptide of a
 CC mammalian gonadotropin releasing hormone I (GnRH-I) tandem repeat peptide
 CC (see ABB76113). The GnRH-I-tandem repeat, and alanine-replacement
 CC derivatives of it (see ABB76114-23), were dimerised and conjugated to
 CC ovalbumin. The peptides were tested for efficacy for immunocastration of
 CC pigs. High efficacy was found for S4A and G10A GnRH-tandem peptides, with
 CC moderate efficacy for the present Y5A peptide. Preferred modified, GnRH-I
 CC -tandem peptides (see ABB76100-02) are used in vaccines to reduce testis
 CC growth and to reduce testosterone to non-detectable levels. A single dose
 CC of a claimed vaccine is effective for the immunocastration of pigs.
 CC Vaccines comprising the modified GnRH-I-tandem peptides can also be used
 CC to alter the reproduction or behaviour of a mammal, e.g. to sterilise
 CC domestic animals, to treat aggressiveness in males, e.g. to prevent or treat
 CC restlessness in male animals being fattened for slaughter, and to improve
 CC meat quality in pigs. The peptide gives an immunogenic response that
 CC allows for effective discrimination between GnRH-I and GnRH-II. In
 CC humans, immunisation against GnRH, preferably selective against either

CC GnRH-I or GnRH-II, could be used in the treatment of prostate cancer
 CC (claimed), breast cancer and some forms of pituitary carcinoma
 XX SQ Sequence 21 AA;
 Query Match 90.0%; Score 45; DB 5; Length 21;
 Best Local Similarity 70.0%; Pred. No. 0.21;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
 |||||
 Db 1 EHWYSGRPG 10

RESULT 9
 ABB76121
 ID ABB76121 standard; peptide; 21 AA.
 XX AC ABB76121;
 XX DT 15-JUL-2002 (first entry)
 XX DE R8A-GnRH-tandem peptide.
 XX Gonadotropin releasing hormone; GnRH; vaccine; prostate cancer;
 XX immunocastration; cytostatic; anabolic.
 XX OS Mammalia.
 XX OS Synthetic.
 XX Key Location/Qualifiers
 FH Misc-difference 8 /note= "wild-type Arg substituted by Ala"
 FT Misc-difference 18 /note= "wild-type Arg substituted by Ala"
 FT Misc-difference 21 /note= "C-terminal amide"
 FT FT
 PN WO200222659-A2.
 XX PD 21-MAR-2002.
 XX PF 11-SEP-2001; 2001WO-NL000666.
 XX PR 12-SEP-2000; 2000US-00659983.
 XX PA (IDLE-) ID-LELYSTAD INST DIERHOUDERIJ EN DIERGEZ.
 XX PI Melloen RH, Oonk HB, Turkstra JA;
 XX WPI; 2002-393944/42.
 XX Peptide for treating prostate cancer and immunocastration, comprises
 PT modified gonadotrophin releasing hormone decapeptide sequence which
 PT allows for immunogenic response that allows for discrimination between
 PT different types of GnRH.
 XX FS Disclosure; Page 33; 43pp; English.
 XX The present sequence is that of an alanine-replacement peptide of a
 CC mammalian gonadotropin releasing hormone I (GnRH-I) tandem repeat peptide
 CC derivatives of it (see ABB76114-23), were dimerised and conjugated to
 CC ovalbumin. The peptides were tested for efficacy for immunocastration of
 CC pigs. High efficacy was found for S4A and G10A GnRH-tandem peptides, with
 CC lower efficacy for the present R8A peptide. Preferred modified, GnRH-I
 CC -tandem peptides (see ABB76100-02) are used in vaccines to reduce testis
 CC growth and to reduce testosterone to non-detectable levels. A single dose
 CC of a claimed vaccine is effective for the immunocastration of pigs.
 CC Vaccines comprising the modified GnRH-I-tandem peptides can also be used
 CC to alter the reproduction or behaviour of a mammal, e.g. to sterilise
 CC domestic animals, to treat aggressiveness in males, e.g. to prevent or treat
 CC restlessness in male animals being fattened for slaughter, and to improve
 CC meat quality in pigs. The peptide gives an immunogenic response that
 CC allows for effective discrimination between GnRH-I and GnRH-II. In
 CC humans, immunisation against GnRH, preferably selective against either

CC meat quality in pigs. The peptide gives an immunogenic response that
 CC allows for effective discrimination between GnRH-I and GnRH-II. In
 CC humans, immunisation against GnRH, preferably selective against either
 CC GnRH-I or GnRH-II, could be used in the treatment of prostate cancer
 CC (claimed), breast cancer and some forms of pituitary carcinoma
 XX
 SQ Sequence 21 AA;
 Query Match 90.0%; Score 45; DB 5; Length 21;
 Best Local Similarity 70.0%; Pred. No. 0.21;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSGXKPG 10
 |||||
 Db 1 EHWSYGLAPG 10
 |||||
 RESULT 10
 AAP10416
 ID AAP10416 standard; peptide; 10 AA.
 XX
 AC AAP10416;
 XX
 DT 25-MAR-2003 (revised)
 DT 10-MAR-2003 (revised)
 DT 01-JUL-2002 (revised)
 DT 17-DEC-1992 (first entry)
 XX
 DE Luteinising Hormone Releasing Hormone analogue #5.
 XX
 KW LHRH; Follicle Stimulating Factor; FSH; acne; hirsutism; dysmenorrhea;
 XX precocious puberty; endometriosis; prostate cancer;
 KW benign prostate hypertrophy; mammary tumour.
 XX
 OS Mammalia.
 OS Synthetic.
 XX
 PH Key Location/Qualifiers
 FT Modified-site 1
 FT /label= OTHER
 FT /note= "pyroglutamic acid"
 FT Modified-site 7
 FT /label= OTHER
 FT /note= "N-alpha-methyl-Leu"
 FT Modified-site 10
 FT /note= "amidated or absent, in which case Pro(9) is Pro-
 FT NH-C2H5"
 XX
 PN BE885308-A.
 XX
 PD 19-MAR-1981.
 XX
 PF 21-SEP-1979; 79FR-00023545.
 XX
 PR 21-SEP-1979; 79FR-00023545.
 XX
 PA (ROUS) ROUSSEL-UCLAF.
 XX
 PI Labrie F, Raynaud J;
 XX
 DR WPI; 1981-23409D/14.
 XX
 PT LH-RH, liberating factor for LH and FSH, and its agonists compsn. - used
 PT to treat prostate adenocarcinoma, benign hypertrophy of the prostate,
 PT hirsutism, acne, etc.
 XX
 PS Claim 1(f); Page 16; 27pp; French.
 XX
 CC A composition is claimed containing LHRH or its analogues. The
 CC composition is used to treat prostate adenocarcinoma, benign hypertrophy
 CC of the prostate, endometriosis, dysmenorrhea, hirsutism, hormone-
 CC dependent mammary tumours, for treatment or prevention of precocious
 CC puberty, delaying the onset of puberty and for treating acne. The
 CC compositions may also contain antiandrogens. See also AAP10412-P10418.
 CC (Updated on 01-JUL-2002 to add missing PI field.) (Updated on 10-MAR-2003
 CC to add missing OS field.) (Updated on 25-MAR-2003 to correct PA field.)
 XX
 SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSGXKPG 10
 |||||
 Db 1 EHWSYGLRPG 10
 |||||

CC compositions may also contain antiandrogens. See AAP10411-P10418.
 CC (Updated on 01-JUL-2002 to add missing PI field.) (Updated on 10-MAR-2003
 CC to add missing OS field.) (Updated on 25-MAR-2003 to correct PA field.)
 XX
 SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSGXKPG 10
 |||||
 Db 1 EHWSYGLRPG 10
 |||||
 RESULT 11
 AAP10411
 ID AAP10411 standard; peptide; 10 AA.
 XX
 AC AAP10411;
 XX
 DT 25-MAR-2003 (revised)
 DT 10-MAR-2003 (revised)
 DT 01-JUL-2002 (revised)
 DT 17-DEC-1992 (first entry)
 XX
 DE Luteinising Hormone Releasing Hormone.
 XX
 KW LHRH; Follicle Stimulating Factor; FSH; acne; hirsutism; dysmenorrhea;
 XX precocious puberty; endometriosis; prostate cancer;
 KW benign prostate hypertrophy; mammary tumour.
 XX
 OS Mammalia.
 XX
 PH Key Location/Qualifiers
 FT Modified-site 1
 FT /label= OTHER
 FT /note= "pyroglutamic acid"
 FT Modified-site 10
 FT /note= "amidated"
 XX
 PN BE885308-A.
 XX
 PD 19-MAR-1981.
 XX
 PF 21-SEP-1979; 79FR-00023545.
 XX
 PR 21-SEP-1979; 79FR-00023545.
 XX
 PA (ROUS) ROUSSEL-UCLAF.
 XX
 PI Labrie F, Raynaud J;
 XX
 DR WPI; 1981-23409D/14.
 XX
 PT LH-RH, liberating factor for LH and FSH, and its agonists compsn. - used
 PT to treat prostate adenocarcinoma, benign hypertrophy of the prostate,
 PT hirsutism, acne, etc.
 XX
 PS Claim 1(a); Page 15; 27pp; French.
 XX
 CC A composition is claimed containing LHRH or its analogues. The
 CC composition is used to treat prostate adenocarcinoma, benign hypertrophy
 CC of the prostate, endometriosis, dysmenorrhea, hirsutism, hormone-
 CC dependent mammary tumours, for treatment or prevention of precocious
 CC puberty, delaying the onset of puberty and for treating acne. The
 CC compositions may also contain antiandrogens. See also AAP10412-P10418.
 CC (Updated on 01-JUL-2002 to add missing PI field.) (Updated on 10-MAR-2003
 CC to add missing OS field.) (Updated on 25-MAR-2003 to correct PA field.)
 XX
 SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSGXKPG 10
 |||||
 Db 1 EHWSYGLRPG 10
 |||||

Best Local Similarity 70.0%; Pred. No. 0.15;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
DB 1 EHWSYGLRPG 10

RESULT 12
AAP50512
ID AAP50512 standard; protein; 10 AA.
AC AAP50512;
XX
XX 25-MAR-2003 (revised)
DT 10-MAR-2003 (revised)
DT 01-NOV-1991 (first entry)
XX
XX Sequence of gonadoliberein analogue.
XX Hormone; reproduction; fertility; contraception; ovulation.
XX Vertebrata.
OS Synthetic.
XX Key Location/Qualifiers
FT Misc-difference 1 /label= pyroGlu
FT Modified-site 10
FT FT
XX BE901307-A.
PN
XX 19-JUN-1985.
PD
XX 19-DEC-1984; 84BE-00901307.
PF
XX 23-DEC-1983; 83HU-00004458.
PR
XX (VALT-) KOBZPONTI VALTO ES HITELBANK RT.
PA (INNO-) INNOVACIOS ALAP.
PA (KERT-) KERTZBUTE.
XX
XX WPI; 1985-159468/27.
DR
XX New gonadoliberein analogues - useful for ovulation control in fish birds
PT and mammals.
PT
XX Claim 2; Page 25; 29pp; French.
PS
XX The analogues of the invention are useful for controlling ovulation in
CC fish, birds and mammals. They have higher activity than their natural
CC counterparts. (Updated on 10-MAR-2003 to add missing OS field.) (Updated
CC on 25-MAR-2003 to correct PA field.)
XX
XX Sequence 10 AA;

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.15;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
DB 1 EHWSYGLRPG 10

RESULT 13
AAP50513
ID AAP50513 standard; protein; 10 AA.
XX
AC AAP50513;
XX
DT 25-MAR-2003 (revised)

DT 10-MAR-2003 (revised)
DT 01-NOV-1991 (first entry)
XX
XX Sequence of gonadoliberein analogue.
XX Hormone; reproduction; fertility; contraception; ovulation.
XX Vertebrata.
OS Synthetic.
XX Key Location/Qualifiers
FT Misc-difference 1 /label= pyroGlu
FT Modified-site 10
FT FT
XX BE901307-A.
PN
XX 19-JUN-1985.
PD
XX 19-DEC-1984; 84BE-00901307.
PF
XX 23-DEC-1983; 83HU-00004458.
PR
XX (VALT-) KOBZPONTI VALTO ES HITELBANK RT.
PA (INNO-) INNOVACIOS ALAP.
PA (KERT-) KERTZBUTE.
XX
XX WPI; 1985-159468/27.
DR
XX New gonadoliberein analogues - useful for ovulation control in fish birds
PT and mammals.
PT
XX Claim 2; Page 25; 29pp; French.
PS
XX The analogues of the invention are useful for controlling ovulation in
CC fish, birds and mammals. They have higher activity than their natural
CC counterparts. (Updated on 10-MAR-2003 to add missing OS field.) (Updated
CC on 25-MAR-2003 to correct PA field.)
XX
XX Sequence 10 AA;

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.15;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
DB 1 EHWSYGLRPG 10

RESULT 14
AAP50222
ID AAP50222 standard; protein; 10 AA.
XX
XX AAP50222;
XX
XX 25-MAR-2003 (revised)
DT 20-JAN-1992 (first entry)
XX
XX Gonadotrophin release stimulating hormone.
DE
XX GnRH; LH-RH; LRF; gonadotrophins; steroids; contraceptive.
XX Synthetic.
XX EF143573-A.
PN
XX 05-JUN-1985.
PD
XX 05-NOV-1984; 84EP-00307625.
PF

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XX 29-NOV-1983; 83US-00556148.
PR 30-AUG-1985; 85US-00771517.
XX
XX (SALK ) SALK INST BIOLOGICAL STUDIES.
XX
XX Rooske RW, Rivier JE, Vale WW;
XX
XX WPI; 1985-136434/23.
XX
XX New GnRH antagonist peptide(s) - useful as inhibitors of gonadotropin(s)
PT and/or steroid(s) for contraceptive use.
XX
XX Disclosure; Page 1; 20pp; English.
XX
XX The claimed peptide antagonists inhibit the release of gonadotrophins
CC and/or steroids. They are antagonistic to GnRH, inhibit ovulation, and
CC may cause resorption of a fertilised egg if administered shortly after
CC abortion. The peptides also have utility in male contraception, and in
CC treatment of precocious puberty, hormone dependent neoplasia,
CC dysmenorrhoea and endometriosis. (Updated on 25-MAR-2003 to correct PA
CC field.)
XX
XX Sequence 10 AA;
SQ
    Query Match      88.0%; Score 44; DB 1; Length 10;
    Best Local Similarity 70.0%; Pred. No. 0.15;
    Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
    QY 1 EHWXGXKXPG 10
    DB 1 EHWXGGLRPG 10

RESULT 15
AAP60127
ID AAP60127 standard; peptide; 10 AA.
XX
XX AAP60127;
XX
XX 25-MAR-2003 (revised)
DT 31-OCT-2002 (revised)
DT 12-JUN-1991 (first entry)
XX
XX Gonadoliberin antagonist.
DE
XX Gonadoliberin antagonist; contraceptive; antitumor.
XX
XX Unidentified.
OS
XX EP201260-A.
PN
XX 12-NOV-1986.
PD
XX 28-APR-1986; 86EP-00303210.
PF
XX 09-MAY-1985; 85US-00732531.
PR
XX (SALK ) SALK INST BIOLOGICAL STUDIES.
PA
XX Rivier JEF, Varga JI, Hagler AT, Struthers RS, Perrin MH;
PI Rivier CL, Vale WW;
PI
XX WPI; 1986-299774/45.
XX
XX New peptide gonadotropin releasing hormone antagonists - useful esp. as
PT contraceptives, for treating early puberty, hormone-dependent neoplasms
PT etc.
XX
XX Disclosure; Page 1; 33pp; English.
PS
XX The decapeptide encodes a gonadoliberin antagonist, which may be used as
CC a male contraceptive and as an antitumor (against steroid- dependent

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CC tumours). (Updated on 31-OCT-2002 to add missing OS field.) (Updated on
CC 25-MAR-2003 to correct PA field.)
XX
XX Sequence 10 AA;
SQ
    Query Match      88.0%; Score 44; DB 1; Length 10;
    Best Local Similarity 70.0%; Pred. No. 0.15;
    Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
    QY 1 EHWXGXKXPG 10
    DB 1 EHWXGGLRPG 10

RESULT 16
AAP61403
ID AAP61403 standard; protein; 10 AA.
XX
XX AAP61403;
XX
XX 25-MAR-2003 (revised)
DT 09-JAN-2003 (revised)
DT 04-AUG-1991 (first entry)
XX
XX Gonadotropin releasing hormone.
DE
XX Gonadotropin releasing hormone; analogue; peptide synthesis; ovulation;
KW veterinary medicine; fertility.
XX
XX Unidentified.
OS
XX DD232500-A.
PN
XX 29-JAN-1986.
PD
XX 08-MAY-1984; 84DD-00262804.
PF
XX 08-MAY-1984; 84DD-00262804.
PR
XX (DEAK ) AKAD WISSENSCHAFTEN DDR.
PA
XX Kaufmann KD, Dolling R, Handel L;
XX
XX WPI; 1986-137868/22.
XX
XX Prepn. of gonadotropin liberating hormone and analogues - by multistage
PT rapid peptide synthesis in soln. without isolating intermediates.
XX
XX Disclosure; Page 7; 8pp; German.
XX
XX The gonadotropin releasing hormone and its analogues are prepd. by a new
CC multistage rapid peptide synthesis method in soln., where the
CC intermediates are not isolated. The process is rapid and gives very pure
CC peptide quickly and using little equipment. The peptide can be used in
CC veterinary medicine to synchronise ovulation in large animal herds, and
CC in human medicine in the treatment of fertility disorders. (Updated on 09
CC -JAN-2003 to add missing OS field.) (Updated on 25-MAR-2003 to correct PA
CC field.)
XX
XX Sequence 10 AA;
SQ
    Query Match      88.0%; Score 44; DB 1; Length 10;
    Best Local Similarity 70.0%; Pred. No. 0.15;
    Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
    QY 1 EHWXGXKXPG 10
    DB 1 EHWXGGLRPG 10

RESULT 17
AAP60576
ID AAP60576 standard; protein; 10 AA.

```

XX AAP60576;
 AC 25-MAR-2003 (revised)
 DT 27-OCT-1991 (first entry)
 XX
 DE Novel decapeptide with LHRH inhibition activity.
 XX
 KW Luteinising hormone releasing hormone activity.
 XX
 OS Synthetic.
 XX
 PN JP61210098-A.
 XX
 PD 18-SEP-1986.
 XX
 PF 23-AUG-1985; 85JP-00185616.
 XX
 PR 23-AUG-1984; 84US-00643643.
 XX
 PA (TULA) ADMIN TULANE EDUCAT.
 PA (TULA) TULANE EDUCATIONAL FUND.
 XX
 DR WPI; 1986-321434/49.
 XX
 PT Deca:peptide - inhibits LH-RH hormone release activity.
 XX
 PS Disclosure; Page 990; 5pp; Japanese.
 XX
 CC Peptide inhibits the release of luteinising hormone releasing hormone. See
 CC also AAP60575. (Updated on 25-MAR-2003 to correct PA field.)
 XX
 SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKXPG 10
 DB 1 EHWXGGLRPG 10
 RESULT 18
 AAP70922
 ID AAP70922 standard; peptide; 10 AA.
 XX
 AC AAP70922;
 XX
 DT 01-MAY-1991 (first entry)
 XX
 DE Luteinising hormone releasing hormone agonist.
 XX
 KW LHRH; contraception; precocious puberty; endometriosis; breast tumours;
 KW prostate tumours; ectopic tumours; menopause.
 XX
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Modified-site 1..1
 FT /label= other
 FT /note= "other= pyroglutamic acid"
 FT Modified-site 10..10
 FT /label= other
 FT /note= "other= ketomethylene(Gly), dihydroketo-
 FT methylene(Gly)"
 XX
 PN US4705778-A.
 XX
 PD 10-NOV-1987.
 XX
 PF 22-OCT-1985; 85US-00790031.
 XX

PR 22-OCT-1985; 85US-00790031.
 XX (STRI) SRI INT.
 PA
 XX Almquist RG, Olsen CM;
 PI
 XX WPI; 1987-334627/47.
 DR
 XX Orally active luteinising hormone-releasing hormone peptide analogues -
 PT have keto:methylene or hydroxy:ethylene in place of amide between
 PT proline(9) and glycine(10).
 XX
 PS Disclosure; Page 4; 17pp; English.
 XX
 CC This luteinising hormone releasing hormone (LHRH) agonist has either a
 CC ketomethylene or dihydroketomethylene gp. replacing the amide linkage
 CC between residues 9 and 10 in LHRH. This results in an increase in oral
 CC activity. It is useful for eg male and female contraception, treatment of
 CC precocious puberty and endo- metriosis and treatment of breast- and
 CC prostate tumours. See also AAP70923-27
 XX
 SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKXPG 10
 DB 1 EHWXGGLRPG 10
 RESULT 19
 AAP81580
 ID AAP81580 standard; protein; 10 AA.
 XX
 AC AAP81580;
 XX
 DT 25-MAR-2003 (revised)
 DT 10-OCT-1990 (first entry)
 XX
 DE LHRH analogue no. 8.
 XX
 KW Luteinising hormone releasing factor; follicle stimulating hormone;
 KW fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.
 XX
 OS Synthetic.
 XX
 PN US4721775-A.
 XX
 PD 26-JAN-1988.
 XX
 PF 26-AUG-1985; 85US-00771546.
 XX
 PR 26-AUG-1985; 85US-00771546.
 XX
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX
 PI Folkers K, Bowers CY, Tang PFL, Kubota M;
 XX
 DR WPI; 1988-049675/07.
 XX
 PT Deca:peptide luteinising hormone releasing hormone analogues - contain
 PT natural amino acids and have high activities for releasing luteinising
 PT hormone and FSH.
 XX
 PS Claim 8; Page 10; 10pp; English.
 XX
 CC The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81573-82.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to

CC correct PI field.)
 XX Sequence 10 AA;
 SQ

Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 |||||
 Db 1 EHWSHGLQPG 10

RESULT 20

AAP81578
 ID AAP81578 standard; protein; 10 AA.

XX
 AC AAP81578;

XX 25-MAR-2003 (revised)
 DT 10-OCT-1990 (first entry)

XX LHRH analogue no. 6.

XX Luteinising hormone releasing factor; follicle stimulating hormone;
 KW fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.

XX Synthetic.

XX US4721775-A.

XX 26-JAN-1988.

XX 26-AUG-1985; 85US-00771546.

XX 26-AUG-1985; 85US-00771546.

XX (TEXA) UNIV TEXAS SYSTEM.

XX Folkers K, Bowers CY, Tang PFL, Kubota M;

XX WPI; 1988-049675/07.

XX Deca:peptide luteinising hormone releasing hormone analogues - contain
 PT natural amino acids and have high activities for releasing luteinising
 PT hormone and FSH.

XX Claim 6; Page 10; 10pp; English.

XX The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81573-82.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to
 CC correct PI field.)

XX Sequence 10 AA;

Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 |||||
 Db 1 EHWSHGLLPG 10

RESULT 21

AAP81575
 ID AAP81575 standard; protein; 10 AA.

XX
 AC AAP81575;

XX

DT 25-MAR-2003 (revised)
 DT 10-OCT-1990 (first entry)

XX LHRH analogue no. 3.

XX Luteinising hormone releasing factor; follicle stimulating hormone;
 KW fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.

XX Synthetic.

XX US4721775-A.

XX 26-JAN-1988.

XX 26-AUG-1985; 85US-00771546.

XX 26-AUG-1985; 85US-00771546.

XX (TEXA) UNIV TEXAS SYSTEM.

XX Folkers K, Bowers CY, Tang PFL, Kubota M;

XX WPI; 1988-049675/07.

XX Deca:peptide luteinising hormone releasing hormone analogues - contain
 PT natural amino acids and have high activities for releasing luteinising
 PT hormone and FSH.

XX Claim 3; Page 10; 10pp; English.

XX The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81573-82.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to
 CC correct PI field.)

XX Sequence 10 AA;

Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 |||||
 Db 1 EHWSHGLRPG 10

RESULT 22

AAP81577
 ID AAP81577 standard; protein; 10 AA.

XX
 AC AAP81577;

XX 25-MAR-2003 (revised)

DT 10-OCT-1990 (first entry)

XX LHRH analogue no. 5.

XX Luteinising hormone releasing factor; follicle stimulating hormone;
 KW fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.

XX Synthetic.

XX US4721775-A.

XX 26-JAN-1988.

XX 26-AUG-1985; 85US-00771546.

XX 26-AUG-1985; 85US-00771546.

XX (TEXA) UNIV TEXAS SYSTEM.

XX Folkers K, Bowers CY, Tang PFL, Kubota M;
 XX WPI; 1988-049675/07.
 XX
 XX Deca:peptide luteinising hormone releasing hormone analogues - contain
 PT natural amino acids and have high activities for releasing luteinising
 PT hormone and FSH.
 XX
 XX Claim 5; Page 10; 10pp; English.
 XX
 XX The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81573-82.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to
 CC correct PI field.)
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXGXXPG 10
 DB 1 EHWXGYGLYPG 10
 RESULT 23
 AAP81579
 ID AAP81579 standard; protein; 10 AA.
 XX
 XX AAP81579;
 AC
 XX 25-MAR-2003 (revised)
 DT 10-OCT-1990 (first entry)
 DT
 XX LHRH analogue no. 7.
 DE
 XX Luteinising hormone releasing factor; follicle stimulating hormone;
 KW fertility; precocious puberty; mammary carcinoma; prostatic carcinoma.
 KW
 XX Synthetic.
 OS
 XX US4721775-A.
 FN
 XX 26-JAN-1988.
 PD
 XX 26-AUG-1985; 85US-00771546.
 PF
 XX 26-AUG-1985; 85US-00771546.
 PR
 XX (TEXA) UNIV TEXAS SYSTEM.
 XX
 XX Folkers K, Bowers CY, Tang PFL, Kubota M;
 PI
 XX WPI; 1988-049675/07.
 DR
 XX Deca:peptide luteinising hormone releasing hormone analogues - contain
 PT natural amino acids and have high activities for releasing luteinising
 PT hormone and FSH.
 XX
 XX Claim 7; Page 10; 10pp; English.
 PS
 XX The peptide was synthesized with D-amino acids. It will be useful for
 CC hypogonadotropic hypogonadal men, male infertility; precocious puberty;
 CC and mammary and prostatic carcinomas. It will also be useful for
 CC development of assay for veterinary medicine. See also AAP81573-82.
 CC (Updated on 25-MAR-2003 to correct PA field.) (Updated on 25-MAR-2003 to
 CC correct PI field.)
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXGXXPG 10
 DB 1 EHWXGYGLYPG 10
 RESULT 25
 AAR15713
 ID AAR15713 standard; protein; 10 AA.
 XX
 XX AAR15713;
 AC
 XX

Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXGXXPG 10
 DB 1 EHWXGYGLYPG 10
 RESULT 24
 AAP90630
 ID AAP90630 standard; protein; 10 AA.
 XX
 XX AAP90630;
 AC
 XX 03-OCT-2002 (revised)
 DT 14-JUN-1989 (first entry)
 DT
 XX Sequence of luteinizing hormone releasing hormone (LHRH).
 DE
 XX Luteinizing hormone releasing hormone (LHRH); LHRH antagonist;
 KW 19-nor-progestational agent; female gynaecological disorders.
 KW
 XX Synthetic.
 OS
 XX EP301850-A.
 PN
 XX 01-FEB-1989.
 PD
 XX 28-JUL-1988; 88EP-00306947.
 PF
 XX 31-JUL-1987; 87US-00080518.
 PR
 XX (SYNT) SYNTEX (USA).
 PA
 XX Vickery BH;
 PI
 XX WPI; 1989-033720/05.
 DR
 XX
 XX Compens. comprising LHRH-antagonist and 19-nor-progestational agent - for
 PT treating female gynaecological disorders based on gonads steroid prodn.
 PT
 XX Disclosure; Page 2; 31pp; English.
 PS
 XX Analogues (I) of the sequence pref. have amino acid (AA) substitutions at
 CC posns. 2 (his is replaced by a D-AA) and 6 (gly is replaced by a D-AA). A
 CC therapeutically effective amt. of such an antagonist is contained in a
 CC pharmaceutical compsn. alongside a menopausal-symptom-alleviating ant. of
 CC a 19-nor progestational agent (II) (pref. both in single formulation).
 CC The compsn. is pref. administered nasally in dosages of 0.01-1 mg/kg/day
 CC for (I) and 0.02-0.07 mg/kg/day for (II). May be used for inhibition of
 CC ovulation, and treatment of eg endometriosis, breast cancer, polycystic
 CC ovarian disease, or precocious puberty in female mammals. (Updated on 03-
 CC OCT-2002 to add missing OS field.)
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 88.0%; Score 44; DB 1; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXGXXPG 10
 DB 1 EHWXGYGLYPG 10
 RESULT 25
 AAR15713
 ID AAR15713 standard; protein; 10 AA.
 XX
 XX AAR15713;
 AC
 XX

DT 25-MAR-2003 (revised)
 DT 24-JAN-1992 (first entry)
 XX Peptide #1 with homology to LHRH.
 DE luliberin.
 XX
 KW
 XX
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Modified-site 1 /label= OTHER
 FT /note= "PyroGlu"
 FT Modified-site 9 /label= Hyp
 FT Modified-site 10 /label= OTHER
 FT /note= "amidated"
 FT
 XX
 PN WO9116343-A.
 XX
 PD 31-OCT-1991.
 XX
 XX
 PF 23-APR-1990; 90FR-000051147.
 XX
 PR 23-APR-1990; 90FR-000051147.
 XX
 XX (INRM) INSERM INST NAT SANTE & RECH MED.
 PA
 XX Gautron J, Pattou E, Kordon C, Bauer K;
 PI WPI; 1991-339753/46.
 DR
 XX
 XX New peptide homologous with luteinising hormone-releasing hormone - used
 PT to treat gynaecological conditions, cancer of gonads and sec. sexual
 PT organs, psychiatric conditions and in assays.
 PT
 XX
 PS Claim 3; Page 50; 83pp; French.
 XX
 CC The C-terminal residue (Gly-CO-NH2) can be replaced by ethylamide. This
 CC peptide and fragments of it (i.e. amino acids 4-10, 5-10, 6-10 and 7-10)
 CC are agonists and antagonists of LHRH. They are useful for treating e.g.
 CC precocious or delayed puberty, psychiatric disorders esp. those of the
 CC libido or sexual aggression, etc. In addition they are useful for
 CC functional exploration of the hypothalamus-hypophyseal axis and for
 CC radioimmunological or biological assay (of LH, FSH and steroid levels) in
 CC biological fluids and biopsy samples. (Updated on 25-MAR-2003 to correct
 CC PA field.)
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. NO. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKPG 10
 DB 1 EHWXGLRPG 10
 RESULT 26
 AAR26819
 ID AAR26819 standard; peptide; 10 AA.
 XX
 AC AAR26819;
 XX
 XX 25-MAR-2003 (revised)
 DT 10-FEB-1993 (first entry)
 XX
 XX LH releasing hormone antagonists.
 DE
 XX Luteinising hormone, LHRH; hypothalamic; antiovulatory; tumours;
 KW antineoplastic; precocious puberty; ovulation; contraceptive.

XX Synthetic.
 OS
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 1 /label= pGlu
 FT Modified-site 10 /note= "amidated"
 FT
 XX
 PN WO9213883-A1.
 XX
 PD 20-AUG-1992.
 XX
 PF 29-JAN-1992; 92WO-US000776.
 XX
 PR 30-JAN-1991; 91US-00647786.
 XX
 XX (TULA) TULANE EDUCATIONAL FUND.
 XX
 XX Janaky T, Juhasz A, Schally AV;
 PI WPI; 1992-299984/36.
 DR
 XX
 XX New decapeptide luteinising hormone-releasing hormone antagonists - for
 PT treating precocious puberty, hormone dependent tumours, endometritis,
 PT cystic diseases; also as contraceptive.
 XX
 PS Disclosure; Page 1; 43pp; English.
 XX
 CC The decapeptides is an antagonistic analogue of hypothalamic LHRH which
 CC possesses high antiovulatory and antineoplastic activity, is free of
 CC anaphylactoid side effects and is believed to be free of endometogenic
 CC effects. The peptide may be used to treat precocious puberty, hormone
 CC dependent tumours, e.g. malignant and benign prostate tumours, e.g.
 CC secondary amenorrhea, endometriosis and ovarian and mammary cystic
 CC diseases. The peptide is also useful for regulating ovulation e.g. as
 CC precoital or postcoital contraceptives, for synchronising oestrus in
 CC livestock and for improving the "rhythm" method. It is also useful for
 CC regulating the human menopausal gonadotropin, follicle stimulating and LH
 CC levels during premenopausal and postmenopausal periods. As it suppresses
 CC the spermatogenesis and testosterone levels in males, it may be of
 CC potential use for male contraception. See also AAR26818, AAR29046-7.
 CC (Updated on 25-MAR-2003 to correct PN field.)
 XX
 XX Sequence 10 AA;
 SQ
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. NO. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKPG 10
 DB 1 EHWXGLRPG 10
 RESULT 27
 AAR62689
 ID AAR62689 standard; peptide; 10 AA.
 XX
 AC AAR62689;
 XX
 XX 25-MAR-2003 (revised)
 DT 10-SEP-1995 (first entry)
 XX
 XX LHRH hapten for attachment to universal immune stimulator.
 DE
 XX Helper T cell epitope; universal immune stimulator; invasin; hapten;
 KW vaccine; LHRH; luteinising hormone releasing hormone; prostate;
 KW androgen-dependent carcinoma; antitumour; infertility.
 XX
 OS Homo sapiens.
 XX
 PN WO9425060-A1.

XX PD 10-NOV-1994.
 XX XX 28-APR-1994; 94WO-US004832.
 XX PF 27-APR-1993; 93US-00057166.
 XX PR 14-APR-1994; 94US-00229275.
 XX XX (LADD/) LADD A E.
 PA (WANG/) WANG C Y.
 PA (ZAMB/) ZAMB T.
 XX Ladd AE, Wang CY, Zamb T;
 PI WPI; 1994-357910/44.
 XX DR Immunogenic luteinising hormone releasing hormone peptide(s) - that
 XX PT suppress LHRH activity in males and females.
 XX PS Claim 6; Page 104; 213pp; English.
 XX CC Synthetic immunogenic peptides are provided in which a universal immune
 CC stimulator is linked to a peptide or protein haptan containing B cell
 CC and/or cytotoxic T lymphocyte epitopes, giving a product which causes
 CC potent immune responses to the coupled peptide or protein. The stimulator
 CC consists of (A) a promiscuous helper T cell epitope (Th) which elicits an
 CC immune response to the coupled peptide in members of a heterogeneous
 CC population expressing diverse HLA phenotypes, and (B) an adjuvant peptide
 CC sequence from the invasive protein of verisina. Spacer amino acid
 CC sequences (e.g. Gly-Gly) can be provided between the invasive and Th
 CC domains and between the immune stimulator and haptan components. When the
 CC haptan is LHRH, then optionally the invasive domain can be omitted from
 CC the immune stimulator component. The present sequence represents an LHRH
 CC haptan which can be attached to the stimulator to provide a potent
 CC vaccine for treating e.g. prostatic hyperplasia, androgen-dependent
 CC carcinoma, prostatic carcinoma, testicular carcinoma, endometriosis,
 CC benign uterine tumours, recurrent functional ovarian cysts, (severe)
 CC premenstrual syndrome or oestrogen-dependent breast cancer, or for
 CC induction of infertility. (Updated on 25-MAR-2003 to correct PN field.)
 XX CC
 XX SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSXGXPG 10
 Db 1 EHWSYGLRPG 10
 RESULT 28
 AAR91197
 ID AAR91197 standard; peptide; 10 AA.
 XX AC AAR91197;
 XX DT 06-SEP-1996 (first entry)
 XX DE LHRH peptide.
 XX KW luteinising hormone releasing hormone; follicle stimulating; FSH;
 KW gonadorelin.
 XX OS Synthetic.
 XX FH Key Location/Qualifiers
 FT Modified-site 1
 FT /note= "pyroglutamic acid"
 FT Modified-site 10
 FT /note= "Gly-NH2"
 XX CA1335403-C.

XX PD 25-APR-1995.
 XX XX 06-MAY-1988; 88CA-00566195.
 XX PF 06-MAY-1988; 88CA-00566195.
 XX PR (BOEH) BIO-MEGA/BOEHRINGER INGELHEIM RES INC.
 XX PA Gauthier JA;
 PI WPI; 1995-179260/24.
 XX DR Prepn. of luteinising hormone and follicle stimulating hormone releasing
 XX PT peptide(s) - by cleaving a protected nona-peptide resin by photolysis to
 XX PT remove the support, coupling with glycineamide and deprotecting.
 XX PS Claim 1; Page ?; 18pp; English.
 XX CC A new method is provided for preparing a decapeptide of formula pGlu-His-
 CC Trp-Ser-Tyr-Xaa-Leu-Arg-Pro-Gly-NH₂, in which a protected nonapeptide
 CC corresponding to the N-terminal of the peptide is first prepared on a
 CC benzhydrylamine resin, the Pro residue being attached to the resin via a
 CC photosensitive linker, the nonapeptide is cleaved from the resin by
 CC photolysis, the C-terminal is activated, and the product is coupled with
 CC glycineamide to add the Gly-NH₂. The decapeptide is then deprotected. In
 CC the decapeptide, Xaa is Gly (giving gonadorelin; the present sequence), D
 CC -2-Nal or D-Trip
 XX SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSXGXPG 10
 Db 1 EHWSYGLRPG 10
 RESULT 29
 AAR75152
 ID AAR75152 standard; peptide; 10 AA.
 XX AC AAR75152;
 XX DT 19-DEC-1995 (first entry)
 XX DE Gonadotropin releasing hormone.
 XX KW Gonadotropin releasing hormone; GnRH; gonadoliberin; reproduction;
 KW transgenic animal; transgenic fish; transgenic fowl.
 XX OS Mammalia.
 XX PN WO9512309-A1.
 XX PD 11-MAY-1995.
 XX PF 04-NOV-1994; 94WO-US012763.
 XX PR 05-NOV-1993; 93US-00147771.
 XX PA (STRD) UNIV LELAND STANFORD JUNIOR.
 PA (UYOR-) UNIV OREGON STATE.
 XX PI Fernald RD, Adelman JP;
 XX DR WPI; 1995-185526/24.
 XX PT New gonadotropin releasing hormone preprohormone DNA - used to develop
 XX PT prods. for regulation of reproductive function and diagnosis of
 XX PT reproductive capacity and disease.

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XX PS Disclosure; Fig 1a; 85pp; English.
XX CC 8 Different forms of GnRH (given in AAR75152-59) have previously been
XX CC isolated from vertebrate species. A precursor for an additional form of
XX CC GnRH, (Ser8)-GnRH (AAR75151), has now been obtd
XX SQ Sequence 10 AA;
    Query Match      88.0%; Score 44; DB 2; Length 10;
    Best Local Similarity 70.0%; Pred. No. 0.15;
    Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXGXP 10
    |||||
DB 1 EHWXGLRPG 10

RESULT 30
AAR75153
ID AAR75153 standard; peptide; 10 AA.
XX AC AAR75153;
XX CC
XX DT 19-DEC-1995 (first entry)
XX DE Chicken (I) GnRH(8Gln).
XX KW Gonadotropin releasing hormone; GnRH; gonadoliberin; reproduction;
XX KW transgenic animal; transgenic fish; transgenic fowl.
XX CS Gallus sp.
XX PN WO9512309-A1.
XX PD 11-MAY-1995.
XX PF 04-NOV-1994; 94WO-US012763.
XX PR 05-NOV-1993; 93US-00147771.
XX PA (STRD ) UNIV LELAND STANFORD JUNIOR.
XX PA (UTOR-) UNIV OREGON STATE.
XX PI Fernald RD, Adelman JP;
XX DR WPI; 1995-185526/24.
XX PT New gonadotropin releasing hormone preprohormone DNA - used to develop
XX PT prods. for regulation of reproductive function and diagnosis of
XX PT reproductive capacity and disease.
XX PS Disclosure; Fig 1a; 85pp; English.
XX CC 8 Different forms of GnRH (given in AAR75152-59) have previously been
XX CC isolated from vertebrate species. A precursor for an additional form of
XX CC GnRH, (Ser8)-GnRH (AAR75151), has now been obtd
XX SQ Sequence 10 AA;
    Query Match      88.0%; Score 44; DB 2; Length 10;
    Best Local Similarity 70.0%; Pred. No. 0.15;
    Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXGXP 10
    |||||
DB 1 EHWXGLRPG 10

RESULT 31
AAR75155
ID AAR75155 standard; peptide; 10 AA.
XX AC AAR75155;
XX DT 27-AUG-2003 (revised)
XX DT 19-DEC-1995 (first entry)
XX DE Catfish GnRH (5His, 8Asn).
XX KW Gonadotropin releasing hormone; GnRH; gonadoliberin; reproduction;
XX KW transgenic animal; transgenic fish; transgenic fowl.
XX OS Siluriformes.
XX PN WO9512309-A1.
XX PD 11-MAY-1995.
XX PF 04-NOV-1994; 94WO-US012763.
XX PR 05-NOV-1993; 93US-00147771.
XX PA (STRD ) UNIV LELAND STANFORD JUNIOR.
XX PA (UTOR-) UNIV OREGON STATE.
XX PI Fernald RD, Adelman JP;
XX DR WPI; 1995-185526/24.
XX PT New gonadotropin releasing hormone preprohormone DNA - used to develop
XX PT prods. for regulation of reproductive function and diagnosis of
XX PT reproductive capacity and disease.
XX PS Disclosure; Fig 1a; 85pp; English.
XX CC 8 Different forms of GnRH (given in AAR75152-59) have previously been
XX CC isolated from vertebrate species. A precursor for an additional form of
XX CC GnRH, (Ser8)-GnRH (AAR75151), has now been obtd. (Updated on 27-AUG-2003
XX CC to correct OS field.)
XX SQ Sequence 10 AA;
    Query Match      88.0%; Score 44; DB 2; Length 10;
    Best Local Similarity 70.0%; Pred. No. 0.15;
    Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXGXP 10
    |||||
DB 1 EHWXGLRPG 10

RESULT 32
AAR86845
ID AAR86845 standard; peptide; 10 AA.
XX AC AAR86845;
XX DT 25-MAR-2003 (revised)
XX DT 22-MAR-1996 (first entry)
XX DE Gonadotropin releasing hormone.
XX KW Gonadotropin releasing hormone; GnRH; motility disorder;
XX KW functional bowel disease; leuprolide acetate; luteinising hormone;
XX KW progesterone; relaxin; autonomic nervous system; drug delivery; therapy;
XX KW irritable bowel syndrome; diabetes; scleroderma; Parkinson's disease.
XX OS Synthetic.
XX FH Key
XX FT Modified-site 1 Location/Qualifiers
    /label= OTHER
    /note= "pyroglutamic acid"
FT Cleavage-site 6..7
FT Modified-site 10

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XX PD 23-NOV-1995.
XX PF 05-MAY-1995; 95WO-IB000323.
XX PR 13-MAY-1994; 94US-00242678.
XX PA (UYTE-) UNIV TECHNOLOGIES INT INC.
XX PI Habibi HR;
XX DR WPI; 1996-010876/01.
XX PT Treating mammalian liver cancer - by administering an inhibitory amt. of
XX PT a GnRH-related cpd.
XX PS Example 1; Page 24; 53pp; English.
XX CC AAR77431 is catfish gonadotropin releasing hormone (cfGnRH). It is used
XX CC in a binding assay as a human GnRH-related peptide. GnRH related peptides
XX CC of the invention are capable of inhibiting the proliferation of liver
XX CC cancer cells. The effect of GnRH-related peptides is not caused by
XX CC cytotoxic activity, since upon treatment with the peptides, hepatoma-
XX CC derived cell lines HepG2 and HuH-7 did not lose cellular viability
XX CC (>90%). The peptides appear to cause hepatoma cells to move into a
XX CC continuous cytostatic state. The peptides can be used to suppress or
XX CC inhibit the growth of liver cancer cells. Since liver cancer cells have
XX CC receptors with high binding affinity for GnRH and its analogues the
XX CC peptides can also be useful in the diagnosis of liver cancer
XX SQ Sequence 10 AA;

Query Match 88.0%; Score 44; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.15;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 1 EHWXGLNPG 10

RESULT 35
AAW65201
ID AAW65201 standard; peptide; 10 AA.
AC AAW65201;
XX 02-OCT-1998 (first entry)
XX Luteinising hormone-releasing hormone (LH-RH).
XX Bradykinin; N-benzylglycine; agonist; receptor study; antagonist;
XX achiral; analgesic; luteinising hormone-releasing hormone; LHRH;
XX gonadoliberin.
XX Synthetic.
XX Key Location/Qualifiers
XX Modified-site 1 /note= "Pyroglutamic acid"
XX Misc-difference 6 /note= "N-benzylglycine, N-cyclohexylglycine or the ring
XX Modified-site 10 substituted derivatives of these two amino acids"
XX /note= "C-terminal amide"
XX US5527882-A.
XX 18-JUN-1996.
XX 07-NOV-1994; 94US-00335202.
XX 07-JUL-1989; 89US-00376839.
XX 16-SEP-1992; 92US-00945664.
XX (REGC ) UNIV CALIFORNIA.
XX Young JD, Mitchell AR;
XX WPI; 1996-299898/30.
XX New bradykinin analogues contg. N-benzyl-glycine - useful as bradykinin
XX agonists or antagonists, useful e.g. as analgesics.
XX Disclosure; Col 11-12; 15pp; English.
XX The invention relates to the obtaining of a potent agonist or antagonist
XX peptide by the replacement of selected amino acids with synthetic achiral
XX amino acids. The present sequence represents a luteinising hormone-
XX releasing hormone (LHRH)
XX Sequence 10 AA;

Query Match 88.0%; Score 44; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.15;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 1 EHWXGLRPG 10

RESULT 36
AAW65203
ID AAW65203 standard; peptide; 10 AA.
XX AAW65203;
XX 02-OCT-1998 (first entry)
XX Luteinising hormone-releasing hormone (LH-RH) analogue.
XX Bradykinin; N-benzylglycine; agonist; receptor study; antagonist;
XX achiral; analgesic; luteinising hormone-releasing hormone; LHRH;
XX gonadoliberin.
XX Synthetic.
XX Key Location/Qualifiers
XX Modified-site 1 /note= "Pyroglutamic acid"
XX Misc-difference 6 /note= "N-benzylglycine, N-cyclohexylglycine or the ring
XX Modified-site 10 substituted derivatives of these two amino acids"
XX /note= "C-terminal amide"
XX US5527882-A.
XX 18-JUN-1996.
XX 07-NOV-1994; 94US-00335202.
XX 07-JUL-1989; 89US-00376839.
XX 16-SEP-1992; 92US-00945664.
XX (REGC ) UNIV CALIFORNIA.
XX Young JD, Mitchell AR;
XX WPI; 1996-299898/30.
XX New bradykinin analogues contg. N-benzyl-glycine - useful as bradykinin
XX agonists or antagonists, useful e.g. as analgesics.
XX Disclosure; Col 11-12; 15pp; English.
XX The invention relates to the obtaining of a potent agonist or antagonist
XX peptide by the replacement of selected amino acids with synthetic achiral
```

CC amino acids. The present sequence represents a luteinising hormone-releasing hormone (LHRH) analogue, containing an N-benzylglycine, N-cyclohexylmethylglycine or a ring substituted derivative of one of these two amino acids

XX SQ Sequence 10 AA;

Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHSXGXKPG 10
 |||||
 Db 1 EHSYGLRPG 10

RESULT 37
 AAW45642
 ID AAW45642 standard; peptide; 10 AA.
 XX AC
 XX 05-JUN-1998 (first entry)
 XX DE Luteinising hormone releasing hormone analogue #1.
 XX Luteinising hormone releasing hormone; LHRH receptor; tumour;
 KW radiometal chelating peptide; diagnosis; therapy; analogue.
 XX OS Synthetic.

Key Location/Qualifiers
 FT Modified-site 1 /note= "Pyroglutamic acid"
 FT Modified-site 10 /note= "C-terminal amide"

WO9640756-A1.
 19-DEC-1996.
 07-JUN-1996; 96WO-US008695.
 07-JUN-1995; 95US-00474555.

(IMMU-) IMMUNOMEDICS INC.

Mcbride WJ, Karacay H, Griffiths GJ;

WPI; 1997-077263/07.

New luteinising hormone releasing hormone analogues - having an amino acid residue deriv. for chelating a radio:metal for use in diagnosis and therapy.

Example 8; Page 30; 59pp; English.

This sequence represents a luteinising hormone releasing hormone analogue. The invention relates to peptides having the following amino acid sequence: X1-X2-X3-S-X4-X5-X6-X7-P-X8-NH2, in which X1 = pyroglutamic acid or D-acetylphenylalanine; X2 = histidine or D-4-chlorophenylalanine; X3 = D- or L-tryptophan or tyrosine; X4 = tyrosine, leucine or arginine; X5 = an amino acid derivative capable of chelating a radiometal; X6 = leucine or tryptophan; X7 = arginine or lysine; and X8 = NH2 = glycine amine or D-alanine amide. The peptides are luteinising hormone releasing hormone (LHRH) analogues that can bind radionuclides while retaining the ability to specifically bind to the LHRH receptor. They can be used for preparing radiolabelled peptides that specifically bind to cells or tissues that express LHRH receptors. The radiolabelled peptides can be used to image or treat tumours, infectious lesions, myocardial infarction, clots, atherosclerotic plaques or normal organs or tissues. The radiometal chelating peptides are stable in blood and other body fluids and tissues

XX SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHSXGXKPG 10
 |||||
 Db 1 EHSYGLRPG 10

RESULT 38
 AAW16294
 ID AAW16294 standard; peptide; 10 AA.
 XX AC
 XX 07-OCT-1997 (first entry)
 XX DE 8-Lys (COCH2Br)-LHRH.
 XX LHRH; antagonist; histamine release; water solubility;
 KW luteinising hormone releasing hormone.
 XX OS Synthetic.

Key Location/Qualifiers
 FT Modified-site 1 /note= "PyroGlu"
 FT Modified-site 8 /note= "Lys (COCH2Br)"
 FT Modified-site 10 /note= "Gly-NH2"

WO9640757-A2.
 19-DEC-1996.
 07-JUN-1996; 96WO-US009852.
 07-JUN-1995; 95US-00480494.
 (INDV) UNIV INDIANA FOUND.

Roeske RW;

WPI; 1997-077264/07.

New LHRH antagonist peptide(s) modified at amino acid position 6 - useful for treatment of, e.g. prostate cancer, breast cancer, endometriosis or premenstrual syndrome.

Claim 31; Page 46; 53pp; English.

Novel LHRH antagonist peptides are disclosed in which the residue of the amino acid corresponding to position 6 of natural mammalian LHRH contains a hydrophilic N-acyl moiety, a dipolar moiety, a sulphonium moiety, a receptor-modifying moiety or a small polar moiety. The peptides may have reduced histamine-releasing activity and improved water solubility. They are useful for treatment of precocious puberty, prostate cancer, ovarian cancer, benign prostatic hypertrophy, endometriosis, uterine fibroids, breast cancer, premenstrual syndrome, polycystic ovary syndrome and diseases which result from excesses of gonadal hormones in humans or animals. They may also be used for behaviour modification (including chemical castration), for treatment of immunosuppressed patients, or for inhibition of ovulation. The present sequence represents an additionally claimed new peptide which instead has a modification at position 8

XX SQ Sequence 10 AA;

Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;

Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
DB 1 EHWXGGLKPG 10

RESULT 39
AAW16293
ID AAW16293 standard; peptide; 10 AA.
AC AAW16293;
XX 07-OCT-1997 (first entry)
XX 8-Met (S+Me) -LHRH.
XX LHRH; antagonist; histamine release; water solubility;
XX luteinising hormone releasing hormone.
XX Synthetic.
XX Key Location/Qualifiers
FH Modified-site 1
FT /note= "pyroGlu"
FT Modified-site 8
FT /note= "Met (S+Me), i.e. S-methyl-methionine"
FT Modified-site 10
FT /note= "Gly-NH2"
XX WO9640757-A2.
XX 19-DEC-1996.
XX 07-JUN-1996; 96WO-US0009852.
XX 07-JUN-1995; 95US-00480494.
XX (INDV) UNIV INDIANA FOUND.
XX Roeske RW;
XX WPI; 1997-077264/07.
XX New LHRH antagonist peptide(s) modified at amino acid position 6 - useful
XX for treatment of, e.g. prostate cancer, breast cancer, endometriosis or
XX premenstrual syndrome.
XX Claim 31; Page 46; 53pp; English.
XX Novel LHRH antagonist peptides are disclosed in which the residue of the
XX amino acid corresponding to position 6 of natural mammalian LHRH contains
XX a hydrophilic N-acyl moiety, a dipolar moiety, a sulphonium moiety, a
XX receptor-modifying moiety or a small polar moiety. The peptides may have
XX reduced histamine-releasing activity and improved water solubility. They
XX are useful for treatment of precocious puberty, prostate cancer, ovarian
XX cancer, benign prostatic hypertrophy, endometriosis, uterine fibroids,
XX breast cancer, premenstrual syndrome, polycystic ovary syndrome and
XX diseases which result from excesses of gonadal hormones in humans or
XX animals. They may also be used for behaviour modification (including
XX chemical castration), for treatment of immunosuppressed patients, or for
XX inhibition of ovulation. The present sequence represents an additionally
XX claimed new peptide which instead has a modification at position 8
XX Sequence 10 AA;
Query Match 88.0%; Score 44; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.15;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXKPG 10
DB 1 EHWXGGLMPG 10

RESULT 40
AAW04612
ID AAW04612 standard; peptide; 10 AA.
XX
AC AAW04612;
XX 13-AUG-1997 (first entry)
XX Luteinizing hormone/releasing hormone mass spectrometry analysis.
XX Mass spectrometry; polymer analysis; biopolymer analysis.
XX Synthetic.
XX WO9636986-A1.
XX 21-NOV-1996.
XX 17-MAY-1996; 96WO-US007146.
XX 19-MAY-1995; 95US-00446055.
XX 19-MAY-1995; 95US-00447175.
XX (PERS-) PERSEPTIVE BIOSYSTEMS INC.
XX Patterson DH, Tarr GE;
XX WPI; 1997-012308/01.
XX Sequencing polymers, e.g. DNA, RNA, peptide nucleic acids, proteins, etc.
XX - by obtaining mass to charge ratios of polymer fragments, pref. using
XX mass spectrometer, and performing statistical analysis.
XX Example 2; Page 32; 86pp; English.
XX A method of obtaining sequence information about a polymer (e.g. DNA,
XX RNA, peptide nucleic acids, proteins, peptides and carbohydrates)
XX comprising monomers of known mass has been claimed. The present sequence
XX represents a luteinizing/releasing hormone, and was used as an example as
XX a digestion before analysis by mass spectrometry, using this novel on-
XX plate strategy. Total sequence information from a nine well digestion can
XX be represented in a single digestion or it is often derived from two or
XX more wells. The methods, apparatus and kit (claimed) can be used for the
XX analysis of polymers, particularly biopolymers, e.g. DNA, RNA, peptide
XX nucleic acids, proteins, peptides and carbohydrates. It provides a rapid,
XX automated and cost effective sequencing of polymers, with a statistical
XX certainty
XX Sequence 10 AA;
Query Match 88.0%; Score 44; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.15;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXKPG 10
DB 1 EHWXGGLRPG 10

RESULT 41
AAW76373
ID AAW76373 standard; peptide; 10 AA.
XX
AC AAW76373;
XX 04-DEC-1998 (first entry)
XX Rat GnRH peptide.
XX GnRH; luteal peptide; rat; gonadotrophin-releasing hormone; contraception;
XX sterility; luteinising hormone; LH, 1-LHRH-III; fertility; pituitary;
XX

Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
 |||||
 Db 1 EHWXGLQPG 10

RESULT 43
 AAW96765
 ID AAW96765 standard; peptide; 10 AA.
 XX
 AC AAW96765;
 XX
 DT 19-APR-1999 (first entry)
 XX
 DE Luteinising hormone releasing hormone (m-LHRH-).
 XX
 KW Lamprey III luteinising hormone releasing hormone; 1-LHRH-III;
 KW mammalian FSH-releasing factor; serum FSH level; LH; luteinising hormone;
 KW agonist; follicle-stimulating hormone; FSH; vertebrate; fertility;
 KW antagonist; spermatogenesis inhibition; follicular development;
 XX
 OS Synthetic.
 OS Mammalia.
 XX
 FH Key Location/Qualifiers
 FT Modified-site 1 /note= "pyroglutamic acid"
 FT Modified-site 10
 FT /note= "C-terminal amide attached to this residue"
 XX
 PN WO9855136-A1.
 XX
 PD 10-DEC-1998.
 XX
 PF 03-JUN-1998; 98WO-US011512.
 XX
 PR 04-JUN-1997; 97US-00869153.
 XX
 PA (LOU) UNIV LOUISIANA STATE & AGRIC & MECH COLL.
 XX
 PI Mccann SM, Yu WH;
 XX
 DR WPI; 1999-070238/06.
 XX
 PT Selectively altering levels of follicle stimulating hormone in
 PT vertebrates - using lamprey luteinising hormone releasing-hormone and its
 PT derivatives, for increasing or reducing fertility.
 XX
 PS Disclosure; Page 5; 40pp; English.
 XX
 CC The present sequence represents a mammalian luteinising hormone releasing
 CC hormone (mLHRH). A LHRH isolated from Lamprey III (1-LHRH-III) is
 CC identical with, or very similar to, the mammalian follicle-stimulating
 CC hormone (FSH)-releasing factor, i.e. present sequence. 1-LHRH-III causes
 CC a selective change in serum FSH levels but not a proportional change in
 CC serum levels of LH (luteinising hormone). The peptide and its agonists
 CC (see AAW96769-95) can be used to increase the level of FSH in
 CC vertebrates, and so are used to increase fertility, in males or females,
 CC particularly in humans but also in other mammals and fish. Antagonists of
 CC the peptide (see AAW96795-104) can be used to decrease the release of
 CC FSH, and so are used to decrease fertility by inhibiting spermatogenesis
 CC and follicular/ovarian development
 XX
 SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15; Mismatches 3; Indels 0; Gaps 0;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
 |||||
 Db 1 EHWXGLQPG 10

RESULT 44
 AAW47842
 ID AAW47842 standard; peptide; 10 AA.
 XX
 AC AAW47842;
 XX
 DT 16-MAR-1999 (first entry)
 XX
 DE pGlu-His-Trip-Ser-Tyr-Gly-Npg-Arg-Pro-Gly-NH2, an LHRH analogue.
 XX
 KW LHRH; luteinising hormone releasing hormone; neopentylglycine; Npg;
 KW reproductive endocrinology; sex hormone-dependent tumour; contraception;
 KW infertility; prostate cancer; autoimmune disease.
 XX
 OS Synthetic.
 OS
 FH Key Location/Qualifiers
 FT Modified-site 1 /note= "pyro-Glu"
 FT Modified-site 7
 FT Modified-site 10 /note= "neopentylglycine, Npg"
 FT Modified-site 10 /note= "Gly-NH2"
 XX
 PN EP882736-A1.
 XX
 PD 09-DEC-1998.
 XX
 PF 02-JUN-1997; 97EP-00401212.
 XX
 PR 02-JUN-1997; 97EP-00401212.
 XX
 PA (SOTH) THERAMEX LAB SA.
 XX
 PI Delansorne R, Paris J;
 XX
 DR WPI; 1999-011613/02.
 XX
 PT New LH-RH peptide analogues - are useful, e.g., in contraception, in
 PT treatment of infertility or in treatment of prostate cancer or auto-
 PT immune diseases.
 XX
 PS Example 1; Page 12; 25pp; English.
 XX
 CC The patent discloses new luteinising hormone-releasing hormone (LH-RH)
 CC peptide analogues in which neopentylglycine (Npg) is substituted for Leu
 CC at position 7. A generic formula is given. The present sequence is a
 CC specific example of the new analogues. Replacement of Leu(7) in LH-RH by
 CC Npg increases the activity of LH-RH itself, and makes it possible to
 CC obtain analogues with a high affinity for the LH-RH receptor. The
 CC analogues are non-toxic at therapeutically effective doses. They may be
 CC used in reproductive endocrinology and in treatment of sex hormone-
 CC dependent benign or malignant tumours. E.g. they may be used for
 CC contraception or for the treatment of infertility and prostate cancer.
 CC They may also be used for treatment of autoimmune diseases
 XX
 SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 80.0%; Pred. No. 0.15; Mismatches 0; Gaps 0;
 Matches 8; Conservative 0; Mismatches 0; Indels 2; Gaps 0;

QY 1 EHWXGXKPG 10
 |||||
 Db 1 EHWXGLQPG 10

RESULT 45
 AAY03856
 ID AAY03856 standard; peptide; 10 AA.

XX AC AAY03856;
 XX DT 16-JUN-1999 (first entry)
 XX DE Amino acid sequence of GnRH peptide.
 XX DE
 XX KW Contraception; sterility; amphipathic; lytic peptide; hormone domain;
 KW gonadotropin-releasing hormone; GnRH; analogue; gonadotropin; dog; cat;
 KW cow; bull; pig; horse; sheep.
 XX OS Synthetic.
 XX FH Key Location/Qualifiers
 FT Modified-site 1 /note= "pyroglutamic acid"
 XX WO9911282-A1.
 XX PD 11-MAR-1999.
 XX PF 01-SEP-1998; 98WO-US018117.
 XX PR 03-SEP-1997; 97US-0057456P.
 XX FA (LOU) UNIV LOUISIANA STATE & AGRIC & MECH COLL.
 XX PI Enright F, Jaynes JM, Hansel W, Elzer PH, Melrose PA;
 XX DR WPI; 1999-204980/17.
 XX PT Production of long-term contraception or sterility in, e.g. cats - by
 PT administering a compound comprising fusion peptide of gonadotropin-
 PT releasing hormone and lytic peptide domains.
 XX PS Example 1-6; Page 22; 34pp; English.
 XX CC The invention relates to method for producing long-term contraception or
 CC sterility in a mammal that comprises administering an amphipathic lytic
 CC peptide compound. The compounds comprise: (a) a hormone domain selected
 CC from gonadotropin-releasing hormone (GnRH) and GnRH analogues, and (b) a
 CC lytic peptide domain. The compounds are relatively small and are not
 CC antigenic. Lysis of gonadotropes has been observed to be very rapid. The
 CC components- the ligand and the lytic peptide may optionally be
 CC administered as a fusion peptide. The methods can be applied to dogs,
 CC cats, cows, bulls, pigs, horses, sheep or humans, including sexually
 CC immature individuals
 XX SQ Sequence 10 AA;
 XX Query Match 88.0%; Score 44; DB 2; Length 10;
 XX Best Local Similarity 70.0%; Pred. No. 0.15;
 XX Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKXPG 10
 |||||
 Db 1 EHWXGLRPG 10
 RESULT 46
 AAY31176
 ID AAY31176 standard; peptide; 10 AA.
 XX AC AAY31176;
 XX DT 28-OCT-1999 (first entry)
 XX DE Ubiquitin fusion protein GnRH monomer.
 XX KW Ubiquitin; immunocastration; fusion protein; heat shock protein; epitope;
 KW immune response stimulation; vaccine; T cell; viral; infection; cancer;
 KW bacterial; parasitic; treatment; gastrointestinal disease; HIV infection;
 KW pulmonary infection; respiratory infection; scaffold; anti-self; pig;

XX KW steridogenesis; gamete maturation; prostate; breast; castration; TNF;
 KW tumour necrosis factor; septic shock; arthritis; Crohn's disease;
 KW inflammatory bowel disease; ulcerative colitis; chorionic gonadotropin;
 XX fertility; sperm protein; growth rate; antibody; detection; GnRH.
 XX OS Synthetic.
 XX PN WO9942472-A1.
 XX PD 26-AUG-1999.
 XX PF 26-JAN-1999; 99WO-US001588.
 XX PR 19-FEB-1998; 98US-00026276.
 XX PA (IGEN-) IGEN INT INC.
 XX PI Kenten JH, Tramontano A, Pilon AL, Lohnas GL, Roberts SF;
 XX DR WPI; 1999-518582/43.
 XX PT Epitope-containing fusion proteins used to generate a highly specific
 PT immune responses.
 XX PS Example 3; Page 41; 67pp; English.
 XX CC This invention describes a novel fusion protein, comprising a heat shock
 CC protein (e.g. ubiquitin), fused to an epitope(s) in a defined manner
 CC which is useful for the stimulation of a highly specific immune response
 CC when administered to an animal. The protein of the invention may be post-
 CC translationally modified (e.g. by the addition of fatty acids to enhance
 CC immunogenicity). The fusion proteins of the invention can be used as
 CC vaccines to induce an immune response. When a T cell epitope is attached,
 CC they can be used for control of viral infections, bacterial infections,
 CC parasitic infection and cancer. The fusion proteins can be used in
 CC pharmaceutical compositions for the treatment of gastrointestinal
 CC diseases, pulmonary infections, respiratory infections, and HIV
 CC infections. The use of ubiquitin as a scaffold is also useful for the
 CC presentation and stimulation of anti-self immune responses, e.g.
 CC generation of anti-gonadotropin releasing hormone antibodies which result
 CC in the suppression of luteinizing hormone and follicle stimulating
 CC hormone. This indirectly suppresses steroidogenesis and gamete maturation
 CC in males and females. This type of anti-self response in humans is useful
 CC in the treatment of prostate cancer and breast cancer. In livestock, the
 CC ability to stimulate an anti-self response provides a simple alternative
 CC to physical castration. Immunocastration of pigs is a better alternative
 CC to physical castration, as it does not result in any of the detrimental
 CC side effects associated with physical castration. Other examples of
 CC diseases and conditions treated with self proteins fused with ubiquitin
 CC are TNF and its epitopes to modulate septic shock, arthritis,
 CC inflammatory bowel disease, Crohn's disease, and ulcerative colitis; Ig
 CC epsilon heavy chain for the control of allergic reactions; chorionic
 CC gonadotropin for fertility control; and sperm proteins for fertility
 CC control. A further use of the fusion proteins is as part of a vaccine to
 CC enhance growth rate and thereby the final weight of the livestock prior
 CC to shipment to market. In addition, the fusion proteins of the invention
 CC can be used to detect and identify antibodies from experimental samples.
 CC This sequence represents a GnRH monomer used in the construction of a
 CC ubiquitin fusion protein described in the method of the invention
 XX SQ Sequence 10 AA;
 XX Query Match 88.0%; Score 44; DB 2; Length 10;
 XX Best Local Similarity 70.0%; Pred. No. 0.15;
 XX Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKXPG 10
 |||||
 Db 1 EHWXGLRPG 10
 RESULT 47
 AAY50229

ID AAY50229 standard; peptide; 10 AA.
 AC AAY50229;
 DT 12-JAN-2000 (first entry)
 DE Neutrophil-activating pancreatic derived peptide 29.
 KW Cell activation; pancreas; treatment; cardiovascular disease; trauma;
 KW inflammatory disease; autoimmune diseases; arthritis; diabetes; stroke;
 KW organ rejection; ischemia; Alzheimer's disease; myocardial infarction;
 KW haemorrhagic shock; diabetic retinopathy; venous insufficiency; angina;
 KW trauma; protease inhibitor; hypertension; sepsis.
 OS Mus sp.
 PN WO9946367-A2.
 XX 16-SEP-1999.
 XX 11-MAR-1999; 99WO-US005247.
 XX 11-MAR-1998; 98US-00038894.
 XX (CELL-) CELL ACTIVATION INC.
 PA (REGC) UNIV CALIFORNIA.
 PA (SCRI) SCRIPPS RES INST.
 XX Stoughton RB, Schmid-Schonbein GW, Hugli TE, Kistler E;
 PI WPI; 1999-580234/49.
 DR Use of cell activating compositions in developing products for diagnosis
 PT and treatment of e.g. cardiovascular, inflammatory, autoimmune or
 PT Alzheimer's disease, trauma, arthritis, organ rejection, diabetes, stroke
 PT or ischemia.
 PS Example 9; Page 182; 184pp; English.
 XX This invention describes a novel method for the use and preparation of
 CC cell activating compositions which involves preparing a cell activating
 CC composition comprising (a) homogenizing pancreatic tissue in buffer at
 CC about neutral or higher pH to produce a homogenate; (b) removing
 CC particulates from the homogenate; (c) optionally incubating the resulting
 CC homogenate, with particulates removed, with a protease; and (d)
 CC fractionating the homogenate and selecting fractions that exhibit cell
 CC activation activity. The methods can be used for improving treatment
 CC outcome or reducing risk of treatment of e.g. cardiovascular disease,
 CC inflammatory diseases, trauma, autoimmune diseases, arthritis, organ
 CC rejection, diabetes and diabetic complications, stroke, ischemia,
 CC Alzheimer's disease, myocardial infarction, haemorrhagic shock, diabetic
 CC retinopathy, diabetes, venous insufficiency, unstable angina or trauma.
 CC They can be used in the veterinary treatment of a non-human subject.
 CC Protease inhibitors can be used to lower cell activation resulting from
 CC these diseases and deficiencies. The detection of an elevated level of
 CC hydrogen peroxide can be used to detect an inflammatory condition. An
 CC elevated level of hydrogen peroxide in plasma or whole blood and in the
 CC presence of superoxide dismutase (SOD) indicates leukocyte up regulation,
 CC e.g. indicative of the onset of an acute cardiovascular disorder, such
 CC as disease onset or ischemic complications. An elevated level of hydrogen
 CC peroxide in plasma or whole blood and a low level in the presence of SOD
 CC is indicative of a chronic or immune compromised condition e.g.
 CC hypertension or sepsis. AAY50201-Y50334 represent peptides used in the
 CC method of the invention
 XX Sequence 10 AA;
 SQ Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKXP 10
 |||||
 DB 1 EHWXGXKXP 10
 |||||

DB 1 EHWXGXKXP 10
 RESULT 48
 AAW94890
 ID AAW94890 standard; peptide; 10 AA.
 AC AAW94890;
 XX 11-MAY-1999 (first entry)
 DE LHRH peptide fragment.
 KW LHRH; immune response; luteinising hormone releasing hormone; DT;
 KW diphtheria toxoid; castrating; estrus cycling; aggression; breast;
 KW sexual activity; organoleptic; livestock; cell growth; malignant;
 KW prostate; ovarian; oncofetal; hyperplastic; pregnancy; endometriosis;
 KW inflammatory response.
 OS Homo sapiens.
 PN WO9902180-A1.
 XX 21-JAN-1999.
 XX 09-JUL-1998; 98WO-AU000532.
 XX 09-JUL-1997; 97AU-00007768.
 XX (CSLC-) CSL LTD.
 PI Mcnamara MK;
 DR WPI; 1999-120511/10.
 PT New immunogenic leutenising hormone releasing hormone compositions -
 PT comprise LHRH conjugated to diphtheria toxoid and adsorbed to an ionic
 PT polysaccharide, used to inhibit reproductive function in animals.
 PS Example; Page 30; 41pp; English.
 XX The invention relates immunogenic composition for eliciting an immune
 CC response to luteinising hormone releasing hormone (LHRH). The composition
 CC comprises a LHRH-diphtheria toxoid (DT) conjugate adsorbed to an ionic
 CC polysaccharide. The LHRH-DT compositions can be used for eliciting an
 CC immune response to LHRH, for castrating an animal, for regulating oestrus
 CC cycling in a female animal or for inhibiting characteristics induced by
 CC the sexual maturation of an animal, e.g. aggression or sexual activity.
 CC They can also be used for achieving production gains in livestock, e.g.
 CC reduction or elimination of unwanted organoleptic characteristics from
 CC the meat of livestock. They can also be used for inhibiting the growth of
 CC cells which are regulated directly or indirectly by LHRH, e.g. malignant
 CC breast cells, malignant prostate cells, malignant ovarian cells,
 CC malignant oncofetal cells or hyperplastic cells. They can also be used
 CC for down-regulating the libido of an animal. They can also be used for
 CC inhibiting pregnancy, prostate enlargement, endometriosis or inflammatory
 CC responses. The LHRH compositions induce a more effective immune response
 CC against LHRH than the LHRH-carrier-adjutant compositions. The effective
 CC immune response against LHRH results in prevention of the release of the
 CC hormones LH and FSH from the anterior pituitary. Sequences AAW94890-93
 XX are peptide derivatives of LHRH
 SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKXP 10
 |||||
 DB 1 EHWXGXKXP 10
 |||||

RESULT 49

AAB03590
 ID AAB03590 standard; peptide; 10 AA.
 XX AC AAB03590;
 XX DT 18-OCT-2000 (first entry)
 XX DE Luteinising hormone releasing hormone peptide sequence.
 XX KW Luteinising hormone releasing hormone; LHRH; human; porcine;
 KW hypothalamus; tetrahydroisoquinoline; LHRH antagonist; endocrine;
 KW cytostatic; depilatory; gastrointestinal; gynaecological; analgesic;
 KW sex hormone related condition; precocious puberty; breast cancer;
 KW benign prostatic hyperplasia; ovarian tumour; prostate tumour;
 KW cryptorchidism; hirsutism; gastric motility disorder; dysmenorrhoea;
 KW endometriosis.
 XX OS Homo sapiens.
 OS Sus scrofa.
 XX FH Key Location/Qualifiers
 FT Modified-site 1
 FT Modified-site 10 /note= "pyroglutamic acid"
 FT Modified-site 10 /label= amidated
 XX PN WO200029380-A1.
 XX PD 25-MAY-2000.
 XX PF 09-NOV-1999; 99WO-US026584.
 XX PR 13-NOV-1998; 98US-00191511.
 XX PA (ABBO) ABBOTT LAB.
 XX PI Havi F. Dwight WJ, Crawford BW, Swenson RE, Bruncko M;
 PI Kaminski MA, Frey LM, Demattei J, Greer J;
 XX DR WPI; 1999-633361/54.
 XX PT New heterocyclic derivatives are luteinizing hormone releasing hormone
 PT antagonists, useful for the treatment of e.g. prostate cancer,
 PT endometriosis, precocious puberty, female hirsutism, gastric motility
 PT disorders and dysmenorrhoea.
 XX PS Disclosure; Page 1; 128pp; English.
 XX CC The present invention describes tetrahydroisoquinoline derivatives (I).
 CC (I) have endocrine, cytostatic, depilatory, gastrointestinal, analgesic
 CC and gynaecological activities, and they act as luteinising hormone
 CC releasing hormone (LHRH) antagonists. (I) are useful for the treatment of
 CC sex hormone related conditions including precocious puberty, benign
 CC prostatic hyperplasia, breast and ovarian tumours, prostate tumours,
 CC cryptorchidism, hirsutism in women, gastric motility disorders,
 CC dysmenorrhoea and endometriosis. The present sequence represents an LHRH
 CC peptide purified from porcine and human hypothalamus tissue, which is
 CC used in the exemplification of the present invention
 XX SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSGXCPG 10
 DB 1 EHWSGLRPG 10
 Search completed: March 2, 2004, 19:25:43
 Job time : 54.5 secs

RESULT 50

AAY31067
 ID AAY31067 standard; peptide; 10 AA.
 XX AC AAY31067;
 XX DT 21-OCT-1999 (first entry)
 XX DE Non-crosslinked protein particle peptide 116.
 XX KW Non-crosslinked protein particle; diagnostic; therapy; monodisperse;
 KW albumin; haemoglobin; nanometer; micrometer; clearance.
 XX OS Synthetic.
 XX FH Key Location/Qualifiers
 FT Modified-site 1
 FT Modified-site 10 /note= "pyroglutamic acid"
 FT Modified-site 10 /note= "C-terminal amide"
 XX PN US5945033-A.
 XX PD 31-AUG-1999.
 XX PF 12-NOV-1996; 96US-00747137.
 XX PR 15-JAN-1991; 91US-00641720.
 PR 13-OCT-1992; 92US-00955560.
 PR 01-JUN-1993; 93US-00069831.
 PR 14-MAR-1994; 94US-00212546.
 XX PA (HEMO-) HEMOSPHERE INC.
 XX PI Yen RCK;
 XX DR WPI; 1999-508153/42.
 XX PT Non-crosslinked protein particles for therapeutic and diagnostic use.
 XX PS Example 22; Col 99-100; 65pp; English.
 XX CC This invention describes a novel aqueous suspension of monodisperse
 CC particles on non-crosslinked, non-denatured albumin (50-5000 nm) which is
 CC stable against dissolving upon dilution with an alcohol-free aqueous
 CC medium. The method involves (a) forming an aqueous solution containing
 CC albumin and hemoglobin and (b) treating the aqueous solution with an
 CC alcohol to cause the solution to become turbid. The particles are useful
 CC as agents for in vivo administration, either of their own administration
 CC or as a vehicle for other therapeutic or diagnostic agents. The method
 CC permits the formation of albumin and hemoglobin particles in the
 CC nanometer and micrometer size range, in a form closer to their natural
 CC form than the forms of the prior art. The particles therefore constitute
 CC a more closely controlled agent for in vivo administration, with greater
 CC ease of clearance from the body after their period of usefulness.
 CC AAY30352-Y31135 represent peptides used in the method of the invention
 XX SQ Sequence 10 AA;
 Query Match 88.0%; Score 44; DB 2; Length 10;
 Best Local Similarity 70.0%; Pred. No. 0.15;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSGXCPG 10
 DB 1 EHWSGLRPG 10
 Search completed: March 2, 2004, 19:25:43
 Job time : 54.5 secs

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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:19:28 ; Search time 13.5 Seconds
(without alignments)
71.253 Million cell updates/sec

Title: US-09-857-115-7

Perfect score: 50
Sequence: 1 EHWXGXFG 10

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 500 summaries

Database : PIR 78.*

1: PIR1.*
2: PIR2.*
3: PIR3.*
4: PIR4.*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	42	84.0	91	JC7393	medaka-type gonado
2	42	84.0	98	I50739	gonadotropin-relea
3	41	82.0	10	RHPG	gonadoliberin - pi
4	41	82.0	10	RHSG	gonadoliberin - sh
5	41	82.0	10	RHAQ1	gonadoliberin I -
6	41	82.0	67	I78541	gonadoliberin prec
7	41	82.0	80	RHID1S	gonadoliberin I pr
8	41	82.0	89	I51423	gonadoliberin prec
9	41	82.0	90	RHMSG	gonadoliberin prec
10	41	82.0	92	RHHUG	gonadoliberin prec
11	41	82.0	92	I50644	gonadoliberin I pr
12	41	82.0	92	I50644	gonadoliberin II -
13	40	80.0	10	RHAQ2	gonadoliberin - sp
14	40	80.0	10	A61126	gonadoliberin II -
15	40	80.0	10	B46030	gonadoliberin II -
16	40	80.0	10	A46030	gonadoliberin I -
17	40	80.0	10	A21114	gonadoliberin - ch
18	40	80.0	74	I51092	gonadotropin relea
19	40	80.0	80	JC7394	Chicken-II-type go
20	40	80.0	82	I51180	gonadotropin-relea
21	40	80.0	82	I51355	gonadotropin relea
22	40	80.0	82	I51365	gonadotropin-relea
23	40	80.0	82	I51331	gonadotropin relea
24	40	80.0	85	A53453	gonadoliberin II p
25	40	80.0	86	RH192S	gonadoliberin II p
26	40	80.0	90	JC7395	salmon-type gonado
27	40	80.0	90	A23735	gonadoliberin prec
28	40	80.0	90	I51095	gonadoliberin prec
29	40	80.0	1000	C82630	serine proteinase

30	74.0	37	350	2	G84715	hypothetical prote
31	72.0	36	10	2	A49187	gonadotropin-relea
32	72.0	36	263	1	S32507	proteasome endopep
33	72.0	36	828	2	T08556	hypothetical prote
34	72.0	36	1034	2	A95262	probable formate d
35	70.0	35	80	2	S39779	aldehyde reductase
36	70.0	35	137	1	S25968	succinate dehydrog
37	70.0	35	315	1	A35452	aldehyde reductase
38	70.0	35	316	1	A39763	aldehyde reductase
39	70.0	35	316	1	A60603	aldehyde reductase
40	70.0	35	316	2	A59021	aldehyde reductase
41	70.0	35	316	2	I49484	aldehyde reductase
42	70.0	35	532	2	T32849	hypothetical prote
43	70.0	35	626	2	A42034	regulator protein
44	70.0	35	1072	2	A84112	alkaline amylopull
45	70.0	34	300	2	S41171	transrepressor pro
46	68.0	34	316	2	A53440	aldose reductase h
47	68.0	34	436	2	JT0386	acid phosphatase (
48	68.0	34	495	2	T21643	hypothetical prote
49	68.0	34	497	2	H83886	hypothetical prote
50	68.0	34	763	2	B86454	hypothetical prote
51	68.0	34	870	2	B71698	hypothetical prote
52	68.0	34	905	2	F82734	hypothetical prote
53	68.0	34	910	2	H82826	serine proteinase
54	66.0	33	75	2	A13191	serine proteinase
55	66.0	33	117	2	AH2059	hypothetical prote
56	66.0	33	284	2	A70976	hypothetical prote
57	66.0	33	291	2	C71362	hypothetical prote
58	66.0	33	448	2	C96542	hypothetical prote
59	66.0	33	508	1	PLWL	L1 protein - human
60	66.0	33	510	1	S15620	L1 protein - human
61	66.0	33	510	1	S15627	L1 protein - human
62	66.0	33	594	2	S36502	L1 protein (altern
63	66.0	33	640	2	R95582	protein K07B3.4b (
64	66.0	33	851	2	D86254	hypothetical prote
65	66.0	33	4976	2	T4185	peptide synthetase
66	64.0	32	134	2	H70689	hypothetical prote
67	64.0	32	162	2	E86387	18.7K hypothetical
68	64.0	32	166	2	B72607	hypothetical prote
69	64.0	32	201	2	A10928	probable phage tai
70	64.0	32	201	2	A11035	probable phage tai
71	64.0	32	228	2	T35418	probable transcript
72	64.0	32	230	2	T3527	hypothetical prote
73	64.0	32	270	2	F88035	protein M01B1.7 (1
74	64.0	32	288	2	H83454	hypothetical prote
75	64.0	32	350	2	B82281	ferric vibriobacti
76	64.0	32	417	2	T33827	hypothetical prote
77	64.0	32	434	1	W2ECIC	isocitrate lyase (
78	64.0	32	434	2	E31245	isocitrate lyase (
79	64.0	32	439	2	C86093	isocitrate lyase (
80	64.0	32	492	2	G70899	probable monooxyge
81	64.0	32	496	2	T48812	hypothetical prote
82	64.0	32	634	2	T32324	hypothetical prote
83	64.0	32	640	2	S62747	homeotic protein A
84	64.0	32	739	2	B86434	protein F1788.27 (
85	64.0	32	756	2	T00367	hypothetical prote
86	64.0	32	2339	2	S41121	acetyl-CoA carboxy
87	63.0	31.5	1309	2	T00078	probable RNA-direc
88	62.0	31	157	2	AE1713	hypothetical prote
89	62.0	31	157	2	AE1342	hypothetical prote
90	62.0	31	178	2	C45831	MHC class I histoc
91	62.0	31	187	2	B86723	acetyl transferase
92	62.0	31	210	2	B89958	hypothetical prote
93	62.0	31	228	2	A31403	membrane protein B
94	62.0	31	229	2	A46527	B-cell-specific me
95	62.0	31	235	2	A22962	carbonate dehydrat
96	62.0	31	242	2	B83738	hypothetical prote
97	62.0	31	246	2	A69428	glycerol uptake fa
98	62.0	31	277	2	T27275	hypothetical prote
99	62.0	31	296	2	B75555	probable lipase/es
100	62.0	31	298	2	UC7586	kidney inhibitor o
101	62.0	31	307	2	E95934	probable enzyme, C
102	62.0	31	343	2	T26784	hypothetical prote

103	31	62.0	374	2	AC0983	hypothetical prote	176	30	60.0	1016	1	S40838	formate dehydrogen
104	31	62.0	443	2	H82957	probable glutamine	177	30	60.0	1016	2	D91231	formate dehydrogen
105	31	62.0	453	2	T38707	probable initiator	178	30	60.0	1016	2	AB0946	formate dehydrogen
106	31	62.0	476	2	T35759	probable transmembr	179	30	60.0	1036	2	H96553	unknown protein 2
107	31	62.0	501	2	T32848	hypothetical prote	180	30	60.0	1040	2	A49356	transient axonal g
108	31	62.0	525	2	E87076	probable secreted	181	30	60.0	1058	2	T42382	guanylate cyclase
109	31	62.0	528	2	S36520	Li protein - human	182	30	60.0	1157	2	A90769	probable host spec
110	31	62.0	557	2	D84146	ABC transporter re	183	30	60.0	1136	2	T49316	profilaggrin relat
111	31	62.0	601	2	D83583	probable acyl-CoA	184	30	60.0	1557	2	T02859	probable serine/th
112	31	62.0	816	2	T17257	hypothetical prote	185	30	60.0	1679	2	T15968	hypothetical prote
113	31	62.0	1023	2	T30257	IgG Fc binding prote	186	30	60.0	2756	2	T30183	hypothetical prote
114	31	62.0	1048	2	A70592	hypothetical prote	187	30	60.0	4307	2	T20721	hypothetical prote
115	31	62.0	1444	2	T18886	angiogenesis inhib	188	29.5	59.0	464	2	T48339	hypothetical prote
116	31	62.0	1464	2	T07058	hypothetical prote	189	29	58.0	29	2	S10061	Ig heavy chain (cl
117	31	62.0	1682	1	C70598	Probable mbtE prot	190	29	58.0	100	2	C72597	hypothetical prote
118	30.5	61.0	1185	2	T46428	hypothetical prote	191	29	58.0	122	2	A33989	Ig heavy chain V-1
119	30	60.0	95	2	H83378	hypothetical prote	192	29	58.0	122	2	T16624	hypothetical prote
120	30	60.0	129	2	A72606	hypothetical prote	193	29	58.0	127	2	T34880	hypothetical prote
121	30	60.0	130	2	AH0808	conserved hypothet	194	29	58.0	130	2	T39498	hypothetical prote
122	30	60.0	140	2	A80738	conserved hypothet	195	29	58.0	136	2	A31933	Ig heavy chain pre
123	30	60.0	161	2	D84472	hypothetical prote	196	29	58.0	137	2	AD2373	hypothetical prote
124	30	60.0	164	2	T32627	hypothetical prote	197	29	58.0	141	2	D75155	acetyl transferase
125	30	60.0	196	2	E83153	conserved hypothet	198	29	58.0	156	2	C84027	molybdopterin conv
126	30	60.0	213	2	E72128	O-sialoglycoprotei	199	29	58.0	165	2	A47148	reg I, regenerati
127	30	60.0	213	2	H86494	O-sialoglycoprotei	200	29	58.0	165	2	A28351	pancreatic stone p
128	30	60.0	218	2	S10613	ribosomal protein	201	29	58.0	165	2	AH2010	molybdopterin conv
129	30	60.0	218	2	AB1403	ribosomal protein	202	29	58.0	166	1	RGHU1A	regenerating islet
130	30	60.0	218	2	AB1778	ribosomal protein	203	29	58.0	166	1	RGHU1B	regenerating islet
131	30	60.0	219	2	T44389	ribosomal protein	204	29	58.0	166	2	A45751	pancreatic stone p
132	30	60.0	223	2	AH0890	disulfide isomeras	205	29	58.0	173	2	B47148	reg II, regenerati
133	30	60.0	226	2	T27843	hypothetical prote	206	29	58.0	176	2	B72698	hypothetical prote
134	30	60.0	228	2	C36794	hypothetical prote	207	29	58.0	188	2	D75499	probable acetylura
135	30	60.0	241	2	G97602	hypothetical prote	208	29	58.0	201	2	AD1191	conserved hypothet
136	30	60.0	256	2	AG3176	Zn-dependent hydro	209	29	58.0	201	2	AD1549	conserved hypothet
137	30	60.0	259	2	T25956	hypothetical prote	210	29	58.0	203	1	YNECH1	phosphoribosyl-AMP
138	30	60.0	288	2	D83121	hypothetical prote	211	29	58.0	204	2	T36466	mutr domain-connat
139	30	60.0	291	2	F70745	hypothetical prote	212	29	58.0	219	2	S74483	hypothetical prote
140	30	60.0	294	2	S32947	hupK protein - Rho	213	29	58.0	226	2	T34808	hypothetical prote
141	30	60.0	306	2	G83152	hypothetical prote	214	29	58.0	228	2	S48783	Li protein - human
142	30	60.0	315	2	A88043	protein Cl3A10.3 [	215	29	58.0	247	2	PQ0659	outer capsid spike
143	30	60.0	340	2	E83126	ferric enterobacti	216	29	58.0	261	2	T36705	probable rRNA meth
144	30	60.0	348	2	AH2894	alcohol dehydrogen	217	29	58.0	263	2	T27962	ULBP4 protein - hu
145	30	60.0	360	2	G70615	hypothetical prote	218	29	58.0	276	2	T33529	hypothetical prote
146	30	60.0	368	2	T27432	hypothetical prote	219	29	58.0	278	2	T32391	hypothetical prote
147	30	60.0	374	2	T26739	hypothetical prote	220	29	58.0	288	2	H59104	hypothetical prote
148	30	60.0	380	2	S53293	SCS3 protein - yea	221	29	58.0	296	2	AH1173	conserved hypothet
149	30	60.0	391	2	AC3149	glycosyltransferas	222	29	58.0	296	2	A11530	conserved hypothet
150	30	60.0	391	2	H86118	hypothetical prote	223	29	58.0	302	2	T32102	hypothetical prote
151	30	60.0	459	2	T38013	hypothetical prote	224	29	58.0	309	2	T22402	hypothetical prote
152	30	60.0	485	2	T05974	p54/58N - human	225	29	58.0	310	2	T16103	hypothetical prote
153	30	60.0	485	2	C75450	H+-transporting tw	226	29	58.0	311	2	T37155	probable oxidoredu
154	30	60.0	486	2	B70775	hypothetical prote	227	29	58.0	312	2	S48849	probable aldo/keto
155	30	60.0	499	2	S36531	probable atpD prot	228	29	58.0	312	2	S48850	chalcone reductase
156	30	60.0	505	1	PIWL2R	Li protein - human	229	29	58.0	312	2	S48851	chalcone reductase
157	30	60.0	508	2	S36508	Li protein - human	230	29	58.0	315	1	S14222	chalcone reductase
158	30	60.0	531	2	E89949	conserved hypothet	231	29	58.0	321	2	A92258	L-arabinose transp
159	30	60.0	534	2	S36583	Li protein - human	232	29	58.0	321	2	AH3026	hypothetical prote
160	30	60.0	539	2	S36566	Li protein - human	233	29	58.0	322	2	AC3207	conserved hypothet
161	30	60.0	568	1	PIWL18	Li protein - human	234	29	58.0	326	2	H96623	probable Aldo/keto
162	30	60.0	580	2	T32851	hypothetical prote	235	29	58.0	327	2	G96623	probable Aldo/keto
163	30	60.0	591	2	F83472	probable glycosyl	236	29	58.0	327	2	T33541	hypothetical prote
164	30	60.0	675	2	T32845	hypothetical prote	237	29	58.0	328	2	T38099	hypothetical prote
165	30	60.0	682	2	T00420	beta-1,3-glucanase	238	29	58.0	332	2	T32852	hypothetical prote
166	30	60.0	682	2	T20640	hypothetical prote	239	29	58.0	339	2	T48999	hypothetical prote
167	30	60.0	708	2	G96518	protein T266.8 [im	240	29	58.0	339	2	T06612	hypothetical prote
168	30	60.0	742	2	JC7595	scavenger receptor	241	29	58.0	354	1	PIWL1	Li protein - rhesu
169	30	60.0	753	2	T32844	hypothetical prote	242	29	58.0	355	2	D95270	probable fatty aci
170	30	60.0	802	2	B94560	hypothetical prote	243	29	58.0	357	2	T31829	hypothetical prote
171	30	60.0	890	2	T35237	probable secreted	244	29	58.0	382	2	S41798	SUR1 protein - yea
172	30	60.0	897	2	E89222	valine-tRNA ligase	245	29	58.0	383	2	G83500	succinyl-diaminopi
173	30	60.0	906	2	T01440	hypothetical prote	246	29	58.0	393	1	C70929	cytochrome P450 Rv
174	30	60.0	957	2	G84528	hypothetical prote	247	29	58.0	393	2	A83164	conserved hypothet
175	30	60.0	977	2	D85741	hypothetical prote	248	29	58.0	395	2	T09373	hypothetical prote

249	29	58.0	399	2	T09375	hypothetical prote	322	29	58.0	927	2	H87568	peptidase, M16 fam
250	29	58.0	406	2	D95405	conserved hypothet	323	29	58.0	958	2	E83701	alpha-amylose G-6
251	29	58.0	417	2	E96688	unknown protein, 3	324	29	58.0	1355	2	S01195	probable Arpase (E
252	29	58.0	420	2	S77102	hypothetical prote	325	29	58.0	1927	2	S01168	beta-glycosidase c
253	29	58.0	428	2	T25950	hypothetical prote	326	29	58.0	2710	2	A37052	toxin A - Clostrid
254	29	58.0	432	2	T30759	hypothetical prote	327	28.5	57.0	78	2	AE0323	probable glutaredo
255	29	58.0	456	2	T32300	hypothetical prote	328	28.5	57.0	382	2	TC8088	glutamate-ammonia
256	29	58.0	477	2	F86670	hypothetical prote	329	28.5	57.0	567	2	D70769	hypothetical prote
257	29	58.0	479	1	VGBF2	lysine specific pe	330	28.5	57.0	1170	1	TS0UP1	thrombospondin 1 p
258	29	58.0	484	2	G72395	alpha-L-arabinofur	331	28.5	57.0	1170	2	A40558	thrombospondin 1 p
259	29	58.0	498	2	B83884	beta-xylosidase /	332	28.5	57.0	1172	1	TS0UP2	thrombospondin 2 p
260	29	58.0	498	2	B84789	probable protein w	333	28.5	57.0	1178	1	A39804	thrombospondin pre
261	29	58.0	499	1	P1WL13	L1 protein - human	334	28	56.0	58	2	C98353	hypothetical prote
262	29	58.0	499	1	P1WL33	L1 protein - human	335	28	56.0	61	2	E82802	hypothetical prote
263	29	58.0	500	1	P1WL6	L1 protein - human	336	28	56.0	63	2	B84293	hypothetical prote
264	29	58.0	501	1	P1WL11	L1 protein - human	337	28	56.0	79	2	B69966	hypothetical prote
265	29	58.0	502	1	P1WL1	L1 protein - pygmy	338	28	56.0	79	2	AC2929	hypothetical prote
266	29	58.0	502	1	P1WL42	L1 protein - human	339	28	56.0	91	2	C90793	hypothetical prote
267	29	58.0	502	2	S36526	L1 protein - human	340	28	56.0	93	2	F84175	hypothetical prote
268	29	58.0	502	2	S36589	probable transmem	341	28	56.0	93	2	B85603	hypothetical prote
269	29	58.0	503	2	S36514	L1 protein - human	342	28	56.0	111	2	B87071	conserved hypothet
270	29	58.0	503	2	S36549	L1 protein - human	343	28	56.0	120	2	C72504	hypothetical prote
271	29	58.0	504	1	P1WL31	L1 protein - human	344	28	56.0	137	2	T04930	glycine-rich cell
272	29	58.0	504	1	P1WL51	L1 protein - human	345	28	56.0	144	2	H70074	hypothetical prote
273	29	58.0	505	1	S19169	cytochrome P450 2D	346	28	56.0	150	2	S72852	hypothetical prote
274	29	58.0	505	1	P1WL35	L1 protein - human	347	28	56.0	152	2	D70781	hypothetical prote
275	29	58.0	505	1	P1WL39	L1 protein - human	348	28	56.0	154	2	AE3207	hypothetical prote
276	29	58.0	507	2	T35677	probable hydrolase	349	28	56.0	158	2	G64885	conserved hypothet
277	29	58.0	508	2	T32847	hypothetical prote	350	28	56.0	158	2	B90817	probable phage rep
278	29	58.0	511	1	VGBF4	glycoprotein C - h	351	28	56.0	158	2	F85676	unknown protein en
279	29	58.0	511	1	VGBE1K	glycoprotein C - h	352	28	56.0	165	1	C69895	conserved hypothet
280	29	58.0	514	2	B70917	probable zwf2 prot	353	28	56.0	172	2	S26684	hypothetical prote
281	29	58.0	524	1	P1WL58	L1 protein - human	354	28	56.0	172	2	S23768	hypothetical prote
282	29	58.0	529	2	S36578	L1 protein - human	355	28	56.0	173	2	AC1444	hypothetical prote
283	29	58.0	531	1	P1WLHS	major capsid prote	356	28	56.0	178	2	C89829	conserved hypothet
284	29	58.0	531	2	S3537	L1 protein - human	357	28	56.0	179	2	I50142	gamma-crystallin M
285	29	58.0	532	2	S36534	L1 protein (altern	358	28	56.0	179	2	I50141	gamma-crystallin M
286	29	58.0	537	2	T19764	hypothetical prote	359	28	56.0	188	2	T41706	probable phosphor
287	29	58.0	557	1	A25493	tryptophan 2-monoo	360	28	56.0	194	2	T50156	hypothetical prote
288	29	58.0	560	2	S64091	probable membrane	361	28	56.0	195	2	F90818	hypothetical prote
289	29	58.0	569	2	D8124	hypothetical prote	362	28	56.0	195	2	A85678	unknown protein en
290	29	58.0	594	2	S39346	unc-18 protein hom	363	28	56.0	201	2	T09047	hypothetical prote
291	29	58.0	594	2	A53455	unc-18 protein hom	364	28	56.0	210	2	H87158	probable integral
292	29	58.0	594	2	S39345	unc-18 protein hom	365	28	56.0	212	2	E75334	ribonuclease H1 -
293	29	58.0	609	2	D83764	chitinase BH0916 [	366	28	56.0	215	2	H71451	hypothetical prote
294	29	58.0	609	2	T32302	hypothetical prote	367	28	56.0	215	2	D75215	purine phosphoribo
295	29	58.0	622	2	A70414	NADH2 dehydrogenas	368	28	56.0	219	2	S76500	hypothetical prote
296	29	58.0	644	2	B70420	NADH2 dehydrogenas	369	28	56.0	220	2	C84383	hypothetical prote
297	29	58.0	648	2	T34999	probable neuramida	370	28	56.0	223	2	B71514	hypothetical prote
298	29	58.0	670	2	T06742	hypothetical prote	371	28	56.0	224	2	D81672	conserved hypothet
299	29	58.0	683	2	AB0217	oligopeptidase B (	372	28	56.0	224	2	T35897	probable secreted
300	29	58.0	687	2	AD2347	ribonuclease E (im	373	28	56.0	225	1	H69781	probable membrane
301	29	58.0	689	2	F83902	beta-galactosidase	374	28	56.0	227	2	T11078	cytochrome-c oxida
302	29	58.0	693	2	D90441	ABC transporter, p	375	28	56.0	228	2	AD2233	hypothetical prote
303	29	58.0	719	2	AE1131	hypothetical prote	376	28	56.0	230	2	T16479	hypothetical prote
304	29	58.0	721	2	AE1491	hypothetical prote	377	28	56.0	232	2	G69883	hypothetical prote
305	29	58.0	727	2	T18665	hypothetical prote	378	28	56.0	235	2	C71354	probable signal pe
306	29	58.0	769	2	B88035	protein M01D1.2 [i	379	28	56.0	236	2	A75455	hypothetical prote
307	29	58.0	824	2	AD3098	periplasmic nitrat	380	28	56.0	244	2	A89752	protein C33E10.1 [
308	29	58.0	828	2	D64990	probable nitrate r	381	28	56.0	250	1	R3YM5C	ribosomal protein
309	29	58.0	828	2	A85860	probable nitrate r	382	28	56.0	252	2	F83443	hypothetical prote
310	29	58.0	828	2	G91015	probable nitrate r	383	28	56.0	252	2	H75147	leu ribosomal prot
311	29	58.0	828	2	A10788	probable nitrate r	384	28	56.0	255	2	G71187	probable ribosomal
312	29	58.0	829	2	F82430	periplasmic nitrat	385	28	56.0	255	2	JC7264	CCAT-enhancer bin
313	29	58.0	829	2	F83499	periplasmic nitrat	386	28	56.0	256	2	S02855	class II histocomp
314	29	58.0	830	2	AE0369	nitrate reductase	387	28	56.0	257	2	S76621	hypothetical prote
315	29	58.0	831	2	A48489	nitrate reductase	388	28	56.0	262	2	G83812	chitin-binding pro
316	29	58.0	831	2	S50163	nitrate reductase	389	28	56.0	263	2	T32081	hypothetical prote
317	29	58.0	834	2	B95346	NapA periplasmic n	390	28	56.0	264	2	S50147	proteasome endopep
318	29	58.0	834	2	E98188	periplasmic nitrat	391	28	56.0	266	2	D95373	TRF17a probable tr
319	29	58.0	834	2	D96713	probable menaquin	392	28	56.0	268	2	B39429	cAMP response elem
320	29	58.0	834	2	D81349	nitrate reductase	393	28	56.0	288	2	B37279	enhancer-binding p
321	29	58.0	926	2	S36742	cation-transportin	394	28	56.0	269	2	A47008	transcription acti

395	28	56.0	277	2	AD3322	lysosome (EC 3.2.1.1	468	28	56.0	417	2	H83708	hypothetical prote
396	28	56.0	279	2	AG3540	dihydrodipicolinat	469	28	56.0	417	2	H83149	glycosyltransferas
397	28	56.0	280	2	H69288	conserved hypothet	470	28	56.0	418	2	F83411	lacta proteinase pr
398	28	56.0	281	2	AH3586	xanthine/uracil pe	471	28	56.0	418	2	A46076	staphylolytic prot
399	28	56.0	289	2	A99160	pobr protein (AF30	472	28	56.0	432	2	T14292	glutamate-ammonia
400	28	56.0	285	2	AH3127	transcription regu	473	28	56.0	433	2	D82608	hypothetical prote
401	28	56.0	295	2	JE0197	phenol sulfotransf	474	28	56.0	438	2	D84331	hypothetical prote
402	28	56.0	297	2	F82019	ribonuclease BN VC	475	28	56.0	438	2	G71175	hypothetical prote
403	28	56.0	299	2	H84661	heme oxygenase 2 (	476	28	56.0	440	2	G61719	glycerol-3-phospha
404	28	56.0	299	2	B69988	hypothetical prote	477	28	56.0	442	2	S25292	hypothetical prote
405	28	56.0	300	2	T00274	hypothetical prote	478	28	56.0	442	2	S25292	hypothetical prote
406	28	56.0	301	2	S73347	probable lipoprote	479	28	56.0	445	2	C83674	phenylacetyl-CoA 1
407	28	56.0	304	2	AG0926	hypothetical prote	480	28	56.0	445	2	B86493	Fmp 5 [imported] -
408	28	56.0	317	2	T05528	hypothetical prote	481	28	56.0	447	2	G83324	probable two-compo
409	28	56.0	317	2	T07274	hypothetical prote	482	28	56.0	448	2	G83333	probable porin PA2
410	28	56.0	319	2	D33537	probable oxidoredu	483	28	56.0	449	2	C70846	probable metC prot
411	28	56.0	320	2	T16311	hypothetical prote	484	28	56.0	449	2	B83456	probable transport
412	28	56.0	321	2	I38238	transcription fact	485	28	56.0	452	2	T21435	hypothetical prote
413	28	56.0	323	2	T50255	hypothetical trans	486	28	56.0	455	2	G75473	probable carotenoi
414	28	56.0	325	2	T02455	hypothetical prote	487	28	56.0	457	2	A95940	probable integral
415	28	56.0	327	2	E95323	hypothetical prote	488	28	56.0	460	2	D96971	stage V sporulatio
416	28	56.0	327	2	A82982	transcription regu	489	28	56.0	461	2	S57713	probable mannosiyl
417	28	56.0	327	2	C98301	probable transcrip	490	28	56.0	461	2	A99494	thermostable carbo
418	28	56.0	332	2	F95986	probable sugar upt	491	28	56.0	467	2	T40348	hypothetical prote
419	28	56.0	334	2	T41713	hypothetical prote	492	28	56.0	467	2	T18744	hypothetical prote
420	28	56.0	335	2	A39579	c-myc promoter-bin	493	28	56.0	468	2	D69716	involved in spore
421	28	56.0	335	2	E70655	hypothetical prote	494	28	56.0	468	2	A97626	hypothetical prote
422	28	56.0	340	2	T20101	hypothetical prote	495	28	56.0	470	2	F85164	hypothetical prote
423	28	56.0	341	2	B99798	hypothetical prote	496	28	56.0	478	1	S73920	amidase homolog G0
424	28	56.0	342	2	T19877	hypothetical prote	497	28	56.0	481	2	E84860	hypothetical prote
425	28	56.0	343	2	B72507	hypothetical prote	498	28	56.0	486	2	T21566	hypothetical prote
426	28	56.0	346	2	T26097	hypothetical prote	499	28	56.0	487	2	T32341	hypothetical prote
427	28	56.0	349	2	C69583	hypothetical prote	500	28	56.0	489	2	G71352	probable sigma fac
428	28	56.0	349	2	D82563	alcohol dehydrogen							
429	28	56.0	349	2	H82643	alcohol dehydrogen							
430	28	56.0	349	2	S68092	protein-glutamine							
431	28	56.0	351	2	C98082	protein T05A8.5 [i							
432	28	56.0	353	2	A32099	transcription regu							
433	28	56.0	355	2	B82159	alcohol dehydrogen							
434	28	56.0	356	2	B82159	conserved hypothet							
435	28	56.0	356	2	S74766	hypothetical prote							
436	28	56.0	360	2	E69086	cell division prot							
437	28	56.0	362	2	I37515	MHC class I histoc							
438	28	56.0	365	2	A02669	chorismate synthas							
439	28	56.0	365	2	T24955	hypothetical prote							
440	28	56.0	368	2	E97548	alcohol dehydrogen							
441	28	56.0	368	2	B97451	chorismate synthas							
442	28	56.0	369	2	A42565	interleukin-2 rece							
443	28	56.0	370	2	G83513	conserved hypothet							
444	28	56.0	371	2	B39625	T-cell receptor al							
445	28	56.0	373	2	A96010	hypothetical prote							
446	28	56.0	374	1	L1YXLY	beta-lytic metallo							
447	28	56.0	374	2	E95361	probable muconat							
448	28	56.0	379	2	F82680	trna methyltransfe							
449	28	56.0	381	2	T33151	hypothetical prote							
450	28	56.0	382	2	S73735	abc transport ATP-							
451	28	56.0	387	2	B98187	probable lacI-fami							
452	28	56.0	391	2	A40059	glycerol-3-phospha							
453	28	56.0	393	2	S61659	KR1 protein - yea							
454	28	56.0	397	2	A39565	lymphoid enhancer-							
455	28	56.0	399	2	A39625	T-cell receptor al							
456	28	56.0	400	2	F98138	hypothetical prote							
457	28	56.0	402	2	E83119	probable FAD-depen							
458	28	56.0	402	2	F82495	spindolin-related							
459	28	56.0	405	2	C83443	beta-ketoacyl-ACP							
460	28	56.0	405	2	T21433	hypothetical prote							
461	28	56.0	406	2	C70640	hypothetical prote							
462	28	56.0	407	2	UN0584	aminocyclase (EC 3							
463	28	56.0	408	2	F70369	carboxyl-terminal							
464	28	56.0	408	2	A47488	aminoacylase (EC 3							
465	28	56.0	409	2	S69229	probable polyketid							
466	28	56.0	411	2	H83788	involved in spore							
467	28	56.0	417	2	T33376	hypothetical prote							

ALIGNMENTS

RESULT 1

JC7393
 medaka-type gonadotropin-releasing hormone precursor - Japanese medaka
 C;Species: Oryzias latipes (Japanese medaka)
 C;Date: 17-Nov-2000 #sequence_revision 17-Nov-2000 #text_change 20-Jan-2003
 C;Accession: JC7393
 R;Okubo, K.; Amano, M.; Yoshiura, Y.; Suetake, H.; Aida, K.
 Biochem. Biophys. Res. Commun. 276, 298-303, 2000
 A;Title: A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipes.
 A;Reference number: JC7393
 A;Contents: Brain
 A;Accession: JC7393
 A;Molecule type: mRNA
 A;Residues: 1-91 <OKU>
 A;Cross-references: DDBJ:AB041333
 C;Comment: This protein plays the roles as a hypophysiotropic factor, and a physiologic
 C;Genetics:
 A;Gene: mdgnrh
 C;Superfamily: gonadoliberin
 C;Keywords: brain

Query Match 84.0%; Score 42; DB 2; Length 91;
 Best Local Similarity 60.0%; Pred. No. 0.46;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 ERWSXGXSPG 10
 :|||:
 Db 22 QHWSFGLSPG 31

RESULT 2

IS0739
 gonadotropin-releasing hormone - Cichlid (Haplochromis burtoni)
 C;Species: Haplochromis burtoni
 C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000

C;Accession: I50739
R;White, S.A.; Kasten, T.L.; Bond, C.T.; Adelman, J.P.; Fernald, R.D.
Proc. Natl. Acad. Sci. U.S.A. 92, 8363-8367, 1995
A;Title: three gonadotropin-releasing hormone genes in one organism suggest novel roles
A;Reference number: I50739; MUID:95396797; PMID:7667296
C;Accession: I50739
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: mRNA
A;Residues: 1-98 <WHI>
A;Cross-references: EMBL:U31865; NID:g905398; PIDN:AAC59691.1; PID:g905399
C;Superfamily: gonadoliberein

Query Match 84.0%; Score 42; DB 2; Length 98;
Best Local Similarity 60.0%; Pred. No. 0.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 23 QHWSYGLSPG 32

RESULT 3
RHPGG
gonadoliberein - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 18-Mar-1997
C;Accession: A01411
R;Baba, Y.; Matsuo, H.; Schally, A.V.
Biochem. Biophys. Res. Commun. 44, 459-463, 1971
A;Title: Structure of the porcine LH- and FSH-releasing hormone. II. Confirmation of the
A;Reference number: A90172; MUID:72114303; PMID:4946067
C;Accession: A01411
A;Molecule type: protein
A;Residues: 1-10 <BAB>
R;Matsuo, H.; Arimura, A.; Nair, R.M.G.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 822-827, 1971
A;Title: Synthesis of the porcine LH- and FSH-releasing hormone by the solid-phase method
A;Reference number: A90176; MUID:72065376; PMID:4942726
A;Contents: annotation; synthesis
A;Note: the synthetic and natural hormones have the same physicochemical and biological
R;Baba, Y.; Arimura, A.; Schally, A.V.
Biochem. Biophys. Res. Commun. 45, 483-487, 1971
A;Title: On the tryptophan residue in porcine LH and FSH-releasing hormone.
A;Reference number: A90175; MUID:72117544; PMID:4946275
A;Contents: annotation
A;Note: Trp-3 appears to be essential for biological activity
C;Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and follicle stimulating hormone
C;Superfamily: gonadoliberein
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;10/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 82.0%; Score 41; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.072;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 1 QHWSYGLRPG 10

RESULT 4
RHSNG
gonadoliberein - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-Mar-1997
C;Accession: A93780; A01411
R;Burgus, R.; Butcher, M.; Amoss, M.; Ling, N.; Monahan, M.; Rivier, J.; Fellows, R.; Bl
Proc. Natl. Acad. Sci. U.S.A. 69, 278-282, 1972
A;Title: Primary structure of the ovine hypothalamic luteinizing hormone-releasing factor
A;Reference number: A93780; MUID:72094314; PMID:4550508
A;Accession: A93780
A;Molecule type: protein

A;Residues: 1-10 <BUR>
A;Note: the natural and synthetic hormones have the same biological activity
C;Comment: This hypothalamic hormone stimulates the secretion of both luteinizing and follicle stimulating hormone
C;Superfamily: gonadoliberein
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;10/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 82.0%; Score 41; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.072;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 1 QHWSYGLRPG 10

RESULT 5
RHAQI
gonadoliberein I - American alligator
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Alligator mississippiensis (American alligator)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Mar-1997
C;Accession: A60066
R;Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, V.; Swanson
Regul. Pept. 33, 105-116, 1991
A;Title: Primary structure of two forms of gonadotropin-releasing hormone from brains of
A;Reference number: A60066; MUID:91352338; PMID:1882082
C;Accession: A60066
A;Molecule type: protein
A;Residues: 1-10 <LOW>
C;Superfamily: gonadoliberein
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;10/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 82.0%; Score 41; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.072;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 1 QHWSYGLRPG 10

RESULT 6
I78541
gonadoliberein precursor - rhesus macaque (fragment)
N;Alternate names: luteinizing hormone releasing hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I78541
R;Ma, Y.J.; Costa, M.E.; Ojeda, S.R.
Neuroendocrinology 60, 346-359, 1994
A;Title: Developmental expression of the genes encoding transforming growth factor alpha
A;Reference number: I58134; MUID:95124501; PMID:7545971
C;Accession: I78541
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: mRNA
A;Residues: 1-67 <RES>
A;Cross-references: GB:S75918; NID:g912831; PIDN:AAB33096.1; PID:g912832
C;Superfamily: gonadoliberein

Query Match 82.0%; Score 41; DB 2; Length 67;
Best Local Similarity 60.0%; Pred. No. 0.52;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 6 QHWSYGLRPG 15

RESULT 7

RHDI5

gonadoliberin I precursor - sharpshooth catfish
N/Alternate names: gonadoliberin, catfish-type; gonadotropin-releasing hormone I (GnRH-I)
N/Contains: gonadoliberin I; gonadoliberin I-associated protein form I; gonadoliberin I
C/Species: Clarias gariepinus (sharpshooth catfish)
C/Accession: S45602; #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
R/Bogerd, J.; Zandbergen, T.; Andersson, E.; Goos, H.
Eur. J. Biochem. 222, 541-549, 1994
A/Title: Isolation, characterization and expression of cDNAs encoding the catfish-type a
A/Reference number: S45600; MUID:94291651; PMID:8020492
A/Accession: S45602
A/Molecule type: mRNA
A/Residues: 1-80 <BOG1>
A/Cross-references: EMBL:X78049; NID:9459433; PIDN:CAA54971.1; PID:9459434
A/Note: gonadoliberin I-associated protein form I
A/Accession: S45601
A/Molecule type: mRNA
A/Residues: 1-46, 'S', 48-59, 'G', 61-80 <BOG2>
A/Cross-references: EMBL:X78048; NID:9459431; PIDN:CAA54970.1; PID:9459432
A/Note: gonadoliberin I-associated protein form II, presumed to be a polymorphic form
R/Bogerd, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos, H.
Biochem. Biophys. Res. Commun. 187, 127-134, 1992
A/Title: Two gonadotropin-releasing hormones from African catfish (Clarias gariepinus).
A/Reference number: JCI1242; MUID:92392313; PMID:1520292
A/Accession: JCI1242
A/Molecule type: protein
A/Residues: 22-31 <BOG3>
A/Experimental source: brain
A/Superfamily: gonadoliberin
C/Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F/1-23/Domain: signal sequence #status predicted <SIG>
F/22-31/Product: gonadoliberin I #status experimental <MAT1>
F/35-80/Product: gonadoliberin I-associated protein #status predicted <MAT2>
F/22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimen
F/31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 82.0%; Score 41; DB 1; Length 80;
Best Local Similarity 60.0%; Pred. No. 0.62;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 22 QHWSYGLRPG 31

RESULT 8

gonadoliberin precursor - African clawed frog
N/Alternate names: luteinizing hormone releasing hormone
C/Species: Xenopus laevis (African clawed frog)
C/Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C/Accession: I51423
R/Hayes, W.P.; Wray, S.; Battey, J.F.
Endocrinology 134, 1835-1845, 1994
A/Title: The frog GnRH-I gene has a mammalian-like expression pattern and conserved doma
A/Reference number: I51423; MUID:94185563; PMID:8137750
A/Accession: I51423
A/Status: preliminary; translated from GB/EMBL/DBJ
A/Molecule type: DNA
A/Residues: 1-89 <HAY>
A/Cross-references: GB:L28040; NID:9496291; PIDN:AAA49728.1; PID:9496292
C/Genetics:
A/Gene: GnRH-I
C/Superfamily: gonadoliberin

Query Match 82.0%; Score 41; DB 2; Length 89;
Best Local Similarity 60.0%; Pred. No. 0.69;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 24 QHWSYGLRPG 33

RESULT 9

gonadoliberin precursor - mouse
N/Alternate names: gonadotropin-releasing hormone (GnRH); luteinizing hormone releasing
N/Contains: gonadoliberin; gonadoliberin-associated protein (GAP)
C/Species: Mus musculus (house mouse)
C/Date: 31-Dec-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C/Accession: A47578
R/Mason, A.J.; Hayflick, J.S.; Zoeller, R.T.; Young III, W.S.; Phillips, H.S.; Nikolic,
Science 234, 1366-1371, 1986
A/Title: A deletion truncating the gonadotropin-releasing hormone gene is responsible f
A/Reference number: A47578; MUID:87069928; PMID:3024317
A/Accession: A47578
A/Molecule type: DNA
A/Residues: 1-90 <MAS>
A/Cross-references: EMBL:M14872; NID:9193576; PIDN:AAA37717.1; PID:9387175
C/Genetics:
A/Insertions: 45/3; 77/3
C/Function:
A/Description: gonadoliberin stimulates pituitary secretion of luteotropin and follitropin
A/Note: gonadoliberin-associated protein may have prolactin release inhibiting activity
C/Superfamily: gonadoliberin
C/Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F/1-23/Domain: signal sequence #status predicted <SIG>
F/22-31/Product: gonadoliberin #status predicted <GLB>
F/35-90/Product: gonadoliberin-associated protein #status predicted <GAP>
F/22/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicte
F/31/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 82.0%; Score 41; DB 1; Length 90;
Best Local Similarity 60.0%; Pred. No. 0.7;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXGXP 10
DB 22 QHWSYGLRPG 31

RESULT 10

gonadoliberin precursor [validated] - human
N/Alternate names: gonadotropin releasing hormone (GnRH); luteinizing hormone releasing
N/Contains: gonadoliberin-associated protein (GAP); progadoliberin
C/Species: Homo sapiens (man)
C/Date: 17-Mar-1987 #sequence_revision 21-Jul-1995 #text_change 08-Dec-2000
C/Accession: S05308; A26173; A93342; A90108; A01410; S45718
R/Hayflick, J.S.; Adelman, J.P.; Seeburg, P.H.
Nucleic Acids Res. 17, 6403-6404, 1989
A/Title: The complete nucleotide sequence of the human gonadotropin-releasing hormone g
A/Reference number: S05308; MUID:89366682; PMID:2671939
A/Accession: S05308
A/Status: translation not shown
A/Molecule type: DNA
A/Residues: 1-92 <HAY>
A/Cross-references: EMBL:X15215; NID:931955; PIDN:CAA33285.1; PID:931956
R/Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A/Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gonadot
A/Reference number: A94090; MUID:86094338; PMID:2867548
A/Accession: A26173
A/Molecule type: mRNA
A/Residues: 1-92 <ADE>
A/Cross-references: GB:M12578; NID:9183418; PIDN:AAA35916.1; PID:9386749
A/Experimental source: hypothalamus
R/Seeburg, P.H.; Adelman, J.P.
Nature 311, 666-668, 1984
A/Title: Characterization of cDNA for precursor of human luteinizing hormone releasing h
A/Reference number: A93342; MUID:85012739; PMID:6090951
A/Accession: A93342
A/Molecule type: mRNA
A/Residues: 1-15, 'S', 17-92 <SEE>

A;Cross-references: GB:X01059; NID:G34356; PIDN:CAA25526.1; PID:G34357
A;Experimental source: Placenta
R;Tan, L.; Rousseau, P.
Biochem. Biophys. Res. Commun. 109, 1061-1071, 1982
A;Title: The chemical identity of the immunoreactive LHRH-like peptide biosynthesized in
A;Reference number: A90108; MUID:83126573; PMID:6760865
A;Accession: A90108
A;Molecule type: protein
A;Residues: 24-33 <TAN>
A;Experimental source: placental trophoblasts
R;Leibovitz, D.; Koch, Y.; Pitzer, F.; Fridkin, M.; Dantes, A.; Baumeister, W.; Amsterda
FEBS Lett. 346, 203-206, 1994
A;Title: Sequential degradation of the neuropeptide gonadotropin-releasing hormone by th
A;Reference number: S45718; MUID:94283597; PMID:8013634
A;Contents: annotation; degradation pathway of synthetic hormone
C;Genetics:
A;Gene: GDB:GNRH, LHRH, GRH
A;Cross-references: GDB:133746; OMIM:227200; OMIM:152760
A;Map position: 8p21-8p11.2
A;Introns: 47/3; 79/3
C;Function:
A;Description: gonadoliberein stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberein-associated protein may have prolactin release inhibiting activity
C;Superfamily: gonadoliberein
F;1-23/Domain: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid
F;24-92/Product: progadoliberein #status predicted <SIG>
F;24-33/Product: gonadoliberein #status experimental <MAT>
F;37-92/Product: gonadoliberein-associated protein #status predicted <GAP>
F;37-92/Product: gonadoliberein-associated protein #status predicted <GAP>
F;24/Modified site: pyroglutamic acid (Gln) (in mature form) #status experimental
F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 82.0%; Score 41; DB 1; Length 92;
Best Local Similarity 60.0%; Pred. No. 0.72;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
Qy 1 EHWXGXKXPG 10
Db 24 QHWSYGLRPG 33

RESULT 11
RHPTG
Gonadoliberein precursor - rat
N;Alternate names: gonadoliberein-associated protein (GAP); gonadotropin releasing hormon
N;Contains: gonadoliberein; prolactin release-inhibiting factor
C;Species: Rattus norvegicus (Norway rat)
C;Date: 31-Mar-1988 #sequence revision 31-Mar-1988 #text_change 18-Jun-1999
C;Accession: A40147; B26173; A48410
R;Bond, C.T.; Hayflick, J.S.; Seeburg, P.H.; Adelman, J.P.
Mol. Endocrinol. 3, 1257-1262, 1989
A;Title: The rat gonadotropin-releasing hormone: SH locus: structure and hypothalamic ex
A;Reference number: A40147; MUID:89384661; PMID:2476669
A;Accession: A40147
A;Molecule type: DNA
A;Residues: 1-92 <BON>
A;Cross-references: GB:M31670; NID:G204447; PIDN:AAA41264.1; PID:G204448
R;Adelman, J.P.; Mason, A.J.; Hayflick, J.S.; Seeburg, P.H.
Proc. Natl. Acad. Sci. U.S.A. 83, 179-183, 1986
A;Title: Isolation of the gene and hypothalamic cDNA for the common precursor of gonadob
A;Reference number: A94090; MUID:86094338; PMID:2867548
A;Accession: B26173
A;Molecule type: mRNA
A;Residues: 1-92 <ADE>
A;Cross-references: GB:M12579; NID:G204445; PIDN:AAA41263.1; PID:G204446
R;Maier, C.C.; Marchetti, B.; Leboeuf, R.D.; Bialock, J.E.
Cell. Mol. Neurobiol. 12, 447-454, 1992
A;Title: Thyrocytes express a mRNA that is identical to hypothalamic luteinizing hormone
A;Reference number: A48410; MUID:93105480; PMID:1468115
A;Accession: A48410
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-92 <MAI>

A;Cross-references: GB:S50870; NID:G262059; PIDN:AAB24572.1; PID:G262060
A;Experimental source: thymus
A;Note: Sequence extracted from NCBI backbone (NCBIN:121082, NCBI:121083)
C;Genetics:
A;Introns: 47/3; 79/3
C;Function:
A;Description: stimulates pituitary secretion of lutropin and follitropin
A;Note: gonadoliberein-associated protein may have prolactin release inhibiting activity
C;Superfamily: gonadoliberein
C;Keywords: amidated carboxyl end; hormone; hypothalamus; placenta; pyroglutamic acid; r
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-92/Product: progadoliberein #status predicted <PGN>
F;24-33/Product: gonadoliberein #status predicted <GLN>
F;37-92/Product: prolactin release-inhibiting factor #status predicted <PIF>
F;24/Modified site: pyroglutamic acid (Gln) (in mature form) #status predicted
F;33/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 82.0%; Score 41; DB 1; Length 92;
Best Local Similarity 60.0%; Pred. No. 0.72;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
Qy 1 EHWXGXKXPG 10
Db 24 QHWSYGLRPG 33

RESULT 12
150644
gonadoliberein I precursor - chicken
N;Alternate names: gonadotropin-releasing hormone I
C;Species: Gallus gallus (chicken)
C;Date: 21-Feb-1997 #sequence revision 21-Feb-1997 #text_change 16-Jul-1999
C;Accession: 150644; S33507
R;Dunn, I.C.; Chen, Y.; Hook, C.; Sharp, P.J.; Sang, H.M.
J. Mol. Endocrinol. 11, 19-29, 1993
A;Title: Characterization of the chicken preprogonadotropin-releasing hormone-I gene.
A;Reference number: 150644; MUID:94059355; PMID:7902095
A;Accession: 150644
A;Status: translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-92 <DU2>
A;Cross-references: EMBL:X69491; NID:G496326; PIDN:CAA49246.1; PID:G311612
C;Genetics:
A;Introns: 47/3; 79/3
C;Superfamily: gonadoliberein

Query Match 82.0%; Score 41; DB 2; Length 92;
Best Local Similarity 60.0%; Pred. No. 0.72;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
Qy 1 EHWXGXKXPG 10
Db 24 QHWSYGLQPG 33

RESULT 13
RHAQ2
gonadoliberein II - American alligator
N;Alternate names: gonadotropin-releasing hormone II
C;Species: Alligator mississippiensis (American alligator)
C;Date: 31-Mar-1993 #sequence revision 31-Mar-1993 #text_change 18-Mar-1997
C;Accession: B60056
R;Lovejoy, D.A.; Fischer, W.H.; Parker, D.B.; McRory, J.E.; Park, M.; Lance, V.; Swanson
Regul. Pept. 33, 105-116, 1991
A;Title: Primary structure of two forms of gonadotropin-releasing hormone from brains of
A;Reference number: A60066; MUID:91352339; PMID:1882082
A;Accession: B60056
A;Molecule type: protein
A;Residues: 1-10 <LOV>
C;Superfamily: gonadoliberein
C;Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F;1/Modified site: pyroglutamic acid (Gln) #status experimental
F;10/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 80.0%; Score 40; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.11;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXXP 10
DB 1 QHWSHGWP 10

RESULT 14
A61126
gonadolibarin - spotted ratfish
N:Alternate names: gonadotropin-releasing hormone
C:Species: Hydrologus collieri (spotted ratfish)
C>Date: 26-May-1994 #sequence_revision 26-May-1994 #text_change 18-Mar-1997
C:Accession: A61126
R:Lovejoy, D.A.; Sherwood, N.M.; Fischer, W.H.; Jackson, B.C.; Rivier, J.E.; Lee, T.
Gen. Comp. Endocrinol. 82, 152-161, 1991
A:Title: Primary structure of gonadotropin-releasing hormone from the brain of a holocarp
A:Reference number: A61126; MUID:91340067; PMID:1678723
A:Accession: A61126
A:Molecule type: protein
A:Residues: 1-10 <LOV>
A:Superfamily: gonadolibarin
C:Keywords: amidated carboxyl end; brain; hormone; pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
F:1/Modified site: amidated carboxyl end (Gly) #status experimental

Query Match 80.0%; Score 40; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.11;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXXP 10
DB 1 QHWSHGWP 10

RESULT 15
B46030
gonadolibarin II - spiny dogfish
N:Alternate names: gonadotropin-releasing hormone
C:Species: Squalus acanthias (spiny dogfish)
C>Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 20-Jan-2003
C:Accession: B46030
R:Lovejoy, D.A.; Fischer, W.H.; Ngamvongchon, S.; Craig, A.G.; Nahorniak, C.S.; Peter, R.
Proc. Natl. Acad. Sci. U.S.A. 89, 6373-6377, 1992
A:Title: Distinct sequence of gonadotropin-releasing hormone (GNRH) in dogfish brain pro
A:Reference number: A46030; MUID:92335300; PMID:1631133
A:Accession: B46030
A:Status: preliminary
A:Molecule type: protein
A:Residues: 1-10 <LOV>
C:Superfamily: gonadolibarin
C:Keywords: hormone; pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

Query Match 80.0%; Score 40; DB 2; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.11;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXXP 10
DB 1 QHWSHGWP 10

RESULT 16
A46030
gonadolibarin I - spiny dogfish
N:Alternate names: gonadotropin-releasing hormone
C:Species: Squalus acanthias (spiny dogfish)
C>Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Dec-1998

C:Accession: A46030
R:Lovejoy, D.A.; Fischer, W.H.; Ngamvongchon, S.; Craig, A.G.; Nahorniak, C.S.; Peter, R.
Proc. Natl. Acad. Sci. U.S.A. 89, 6373-6377, 1992
A:Title: Distinct sequence of gonadotropin-releasing hormone (GNRH) in dogfish brain pr
A:Reference number: A46030; MUID:92335300; PMID:1631133
A:Accession: A46030
A:Status: preliminary
A:Molecule type: protein
A:Residues: 1-10 <LOV>
C:Keywords: hormone; pyroglutamic acid
F:1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental

Query Match 80.0%; Score 40; DB 2; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.11;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXXP 10
DB 1 QHWSHGWP 10

RESULT 17
A21114
gonadolibarin - chum salmon
C:Species: Oncorhynchus keta (chum salmon)
C>Date: 10-Aug-1990 #sequence_revision 10-Aug-1990 #text_change 18-Jun-1993
C:Accession: A21114
R:Sherwood, N.; Eiden, L.; Brownstein, M.; Spiess, J.; Rivier, J.; Vale, W.
Proc. Natl. Acad. Sci. U.S.A. 80, 2794-2798, 1983
A:Title: Characterization of a teleost gonadotropin-releasing hormone.
A:Reference number: A21114; MUID:83195140; PMID:6341999
A:Accession: A21114
A:Status: preliminary
A:Molecule type: protein
A:Residues: 1-10 <SHE>

Query Match 80.0%; Score 40; DB 2; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.11;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXXP 10
DB 1 QHWSHGWP 10

RESULT 18
I51092
gonadotropin releasing hormone - chinook salmon (fragment)
C:Species: Oncorhynchus tshawytscha (chinook salmon)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 09-Aug-1997
C:Accession: I51092
R:Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A:Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A:Reference number: I51040; MUID:92267241; PMID:1587389
A:Accession: I51092
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-74 <XLU>
A:Cross-references: EMBL:X79711; NID:G499322; PID:G499323
C:Genetics:
A:Gene: GNRH
A:Introns: 38/3; 65/3

Query Match 80.0%; Score 40; DB 2; Length 74;
Best Local Similarity 60.0%; Pred. No. 0.88;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXXP 10
DB 16 QHWSHGWP 25

```

RESULT 19
JC7394
chicken-II-type: gonadotropin-releasing hormone precursor - Japanese medaka
C:Species: Oryzias latipes (Japanese medaka)
C>Date: 17-Nov-2000 #sequence_revision 17-Nov-2000 #text_change 20-Jan-2003
C:Accession: JC7394
R:Okubo, K.; Amano, M.; Yoshiura, Y.; Suetake, H.; Aida, K.
Biochem. Biophys. Res. Commun. 276, 298-303, 2000
A>Title: A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipes.
A:Reference number: JC7393
A:Contents: Brain
A:Accession: JC7394
A:Molecule type: mRNA
A:Residues: 1-80 <OKU>
A:Cross-references: DBJ:AB041330
C:Comment: This protein with the roles as the physiologic regulator of gonadotropin rele
C:Genetics:
A:Gene: cgnrh-II
C:Superfamily: gonadoliberin
C:Keywords: brain

Query Match      80.0%; Score 40; DB 2; Length 80;
Best Local Similarity 60.0%; Pred. No. 0.95;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHWSGXGXXPG 10
Db      22 QHWSHGWLPG 31

RESULT 20
I51180
gonadotropin-releasing hormone - cherry salmon
C:Species: Oncorhynchus masou (cherry salmon)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 20-Jan-2003
C:Accession: I51180
R:Suzuki, M.; Ryodo, S.; Kobayashi, M.; Aida, K.; Urano, A.
J. Mol. Endocrinol. 9, 73-82, 1992
A>Title: Characterization and localization of mRNA encoding the salmon-type gonadotrophin
A:Reference number: I51180; MUID:92384893; PMID:1515027
A:Accession: I51180
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-82 <SUZ>
A:Cross-references: GB:S44614; NID:9254824; PID:9254825
C:Superfamily: gonadoliberin

Query Match      80.0%; Score 40; DB 2; Length 82;
Best Local Similarity 60.0%; Pred. No. 0.98;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHWSGXGXXPG 10
Db      24 QHWSYGLWPG 33

RESULT 21
I51355
gonadotropin releasing hormone - Atlantic salmon
C:Species: Salmo salar (Atlantic salmon)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C:Accession: I51355
R:Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A>Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A:Reference number: I51040; MUID:92267241; PMID:1587389
A:Accession: I51355
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-82 <KLU>
A:Cross-references: EMBL:X79709; NID:g499341; PID:g499342
A:Accession: I51355
A>Status: preliminary; translated from GB/EMBL/DBJ

Query Match      80.0%; Score 40; DB 2; Length 82;
Best Local Similarity 60.0%; Pred. No. 0.98;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHWSGXGXXPG 10
Db      24 QHWSYGLWPG 33

RESULT 22
I51365
gonadotropin-releasing hormone - brown trout
C:Species: Salmo trutta (brown trout)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C:Accession: I51365
R:Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A>Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A:Reference number: I51040; MUID:92267241; PMID:1587389
A:Accession: I51365
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-82 <KLU>
A:Cross-references: EMBL:X79713; NID:g499343; PIDN:CAA56152.1; PID:g499344
C:Genetics:
A:Gene: GnRH
A:Introns: 46/3; 73/3

Query Match      80.0%; Score 40; DB 2; Length 82;
Best Local Similarity 60.0%; Pred. No. 0.98;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHWSGXGXXPG 10
Db      24 QHWSYGLWPG 33

RESULT 23
I51331
gonadotropin releasing hormone - brook trout
C:Species: Salvelinus fontinalis (brook trout)
C>Date: 04-Sep-1997 #sequence_revision 04-Sep-1997 #text_change 05-Nov-1999
C:Accession: I51331
R:Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A>Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A:Reference number: I51040; MUID:92267241; PMID:1587389
A:Accession: I51331
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-82 <KLU>
A:Cross-references: EMBL:X79712; NID:g499336; PIDN:CAA56151.1; PID:g499337
C:Genetics:
A:Gene: GnRH
A:Introns: 46/3; 73/3

Query Match      80.0%; Score 40; DB 2; Length 82;
Best Local Similarity 60.0%; Pred. No. 0.98;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHWSGXGXXPG 10
Db      24 QHWSYGLWPG 33

RESULT 24
I51355
gonadotropin releasing hormone - Atlantic salmon
C:Species: Salmo salar (Atlantic salmon)
C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C:Accession: I51355
R:Klungland, H.; Lorens, J.B.; Andersen, O.; Kisen, G.O.; Alestrom, P.
Mol. Cell. Endocrinol. 84, 167-174, 1992
A>Title: The Atlantic salmon prepro-gonadotropin releasing hormone gene and mRNA.
A:Reference number: I51040; MUID:92267241; PMID:1587389
A:Accession: I51355
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-82 <KLU>
A:Cross-references: EMBL:X79709; NID:g499341; PID:g499342
A:Accession: I51355
A>Status: preliminary; translated from GB/EMBL/DBJ

Query Match      80.0%; Score 40; DB 2; Length 82;
Best Local Similarity 60.0%; Pred. No. 0.98;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHWSGXGXXPG 10
Db      24 QHWSYGLWPG 33

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A53453
gonadoliberin II precursor - Cichlid (Haplochromis burtoni)
C/Species: Haplochromis burtoni
C/Date: 25-Aug-1995 #sequence_revision 25-Aug-1995 #text_change 16-Jul-1999
C/Accession: A53453
R/White, S.A.; Bond, C.T.; Francis, R.C.; Kasten, T.L.; Fernald, R.D.; Adelman, J.P.
Proc. Natl. Acad. Sci. U.S.A. 91, 1423-1427, 1994
A/Title: A second gene for gonadotropin-releasing hormone: cDNA and expression pattern in
A/Reference number: A53453; MUID:94151343; PMID:8108425
A/Accession: A53453
A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-85 <WHI>
A/Cross-references: GB:L27435; NID:g439868; PIDN:AAA74993.1; PID:g439869
C/Superfamily: gonadoliberin
C/Keywords: brain; hormone

Query Match 80.0%; Score 40; DB 2; Length 85;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
:|||||
Db 24 QHWSHGWTYP 33

RESULT 25
RHDS
gonadoliberin II precursor - sharpooth catfish
N/Alternate names: gonadoliberin, chicken-type; gonadotropin-releasing hormone II (GnRH-
N/Contents: gonadoliberin II; gonadoliberin II-associated protein
C/Species: Clarias fariatus (sharpooth catfish)
C/Date: 30-Sep-1993 #sequence_revision 18-Mar-1997 #text_change 18-Jun-1999
C/Accession: S45600; JCI1243; S42935
R/Bogerd, J.; Zandbergen, T.; Andersson, B.; Goos, H.
Eur. J. Biochem. 222, 541-549, 1994
A/Title: Isolation, characterization and expression of cDNAs encoding the catfish-type
A/Reference number: S45600; MUID:94291651; PMID:8020492
A/Accession: S45600
A/Molecule type: mRNA
A/Residues: 1-86 <BOGI>
A/Cross-references: EMBL:X78047; NID:g459429; PIDN:CAA54969.1; PID:g459430
R/Bogerd, J.; Li, K.W.; Janssen-Dommerholt, C.; Goos, H.
Biochem. Biophys. Res. Commun. 187, 127-134, 1992
A/Title: Two gonadotropin-releasing hormones from African catfish (Clarias fariatus).
A/Reference number: JCI1242; MUID:92392313; PMID:1520292
A/Accession: JCI1243
A/Molecule type: protein
A/Residues: 25-34 <BOG2>
A/Experimental source: brain
C/Superfamily: gonadoliberin
C/Keywords: amidated carboxyl end; hormone; hypothalamus; pyroglutamic acid
F/1-24/Domain: signal sequence #status predicted <SIG>
F/25-34/Product: gonadoliberin II #status experimental
F/38-86/Product: gonadoliberin II-associated protein #status predicted <MAT1>
F/25/Modified site: pyroglutamate carboxylic acid (Gln) (in mature form) #status experimental
F/34/Modified site: amidated carboxyl end (Gly) (amide in mature form from following gly

Query Match 80.0%; Score 40; DB 1; Length 86;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
:|||||
Db 25 QHWSHGWTYP 34

RESULT 26
JC7395
salmon-type gonadotropin-releasing hormone precursor - Japanese medaka
C/Species: Oryzias latipes (Japanese medaka)
C/Date: 17-Nov-2000 #sequence_revision 17-Nov-2000 #text_change 17-Nov-2000
C/Accession: JC7395

R/Okubo, K.; Amano, M.; Yoshiura, Y.; Suetake, H.; Aida, K.
Biochem. Biophys. Res. Commun. 276, 298-303, 2000
A/Title: A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipes.
A/Reference number: JC7393
A/Contents: Brain
A/Accession: JC7395
A/Molecule type: mRNA
A/Residues: 1-90 <OKU>
A/Cross-references: DBJ:AB041331
C/Comment: This protein with the roles as the physiologic regulator of gonadotropin rel.
C/Genetics:
A/Gene: sgnrh
C/Keywords: brain

Query Match 80.0%; Score 40; DB 2; Length 90;
Best Local Similarity 60.0%; Pred. No. 1.1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
:|||||
Db 24 QHWSYGVWLP 33

RESULT 27
A23735
gonadoliberin precursor - Cichlid (Haplochromis burtoni)
C/Species: Haplochromis burtoni
C/Date: 30-Dec-1991 #sequence_revision 30-Dec-1991 #text_change 18-Jun-1993
C/Accession: A23735
R/Bond, C.T.; Francis, R.C.; Fernald, R.D.; Adelman, J.P.
Mol. Endocrinol. 5, 931-937, 1991
A/Title: Characterization of complementary DNA encoding the precursor for gonadotropin-
A/Reference number: A23735; MUID:92049375; PMID:1944299
A/Accession: A23735
A/Status: preliminary; not compared with conceptual translation
A/Molecule type: mRNA
A/Residues: 1-90 <BON>
F/24-33/Product: gonadoliberin #status predicted <GLB>

Query Match 80.0%; Score 40; DB 2; Length 90;
Best Local Similarity 60.0%; Pred. No. 1.1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
:|||||
Db 24 QHWSYGVWLP 33

RESULT 28
I51095
gonadoliberin precursor - red sea bream
N/Alternate names: prepro-sgnrh
C/Species: Chrysophrys major (red sea bream)
C/Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C/Accession: I51095
R/Okuzawa, K.; Araki, K.; Tanaka, H.; Kagawa, H.; Hirose, K.
Gen. Comp. Endocrinol. 96, 234-242, 1994
A/Title: Molecular cloning of a cDNA encoding the prepro-salmon gonadotropin-releasing
A/Reference number: I51095; MUID:95154651; PMID:7851723
A/Accession: I51095
A/Status: preliminary; translated from GB/EMBL/DBJ
A/Molecule type: mRNA
A/Residues: 1-90 <OKU>
A/Cross-references: GB:D26108; NID:g685222; PIDN:BA05104.1; PID:g685223

Query Match 80.0%; Score 40; DB 2; Length 90;
Best Local Similarity 60.0%; Pred. No. 1.1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
:|||||
Db 24 QHWSYGVWLP 33

RESULT 29

C82630
serine proteinase XF1851 [imported] - Xylella fastidiosa (strain 9a5c)
C/Species: Xylella fastidiosa
C/Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 24-Nov-2003
C/Accession: C82630
R/anonymous, The Xylella fastidiosa Consortium of the Organization for Nucleotide Sequencing 406, 151-157, 2000
A/Title: The genome sequence of the plant pathogen Xylella fastidiosa.
A/Reference number: A82515; MUID:20365717; PMID:10910347
A/Note: for a complete list of authors see reference number A59328 below
A/Accession: C82630
A/Status: preliminary
A/Molecule type: DNA
A/Residues: 1-1000 <SIM>
A/Cross-references: GB:AE004006; GB:AE003849; NID:99106932; PIDN:AAF94657.1; GSPDB:GN001
A/Experimental source: strain 9a5c
R/Simpson, A.J.G.; Reinach, F.C.; Arruda, P.; Abreu, F.A.; Acencio, M.; Alvarenga, R.; Briones, M.R.S.; Bueno, M.R.P.; Camargo, A.A.; Camargo, D.M.; Carrer, H. as-Neto, E.; Docena, C.; El-Dorry, H.; Facincani, A.P.; Ferreira, A.J.S. submitted to Genbank, June 2000
A/Authors: Ferreira, V.C.A.; Ferro, J.A.; Fraga, J.S.; Franca, S.C.; Franco, M.C.; Frohm J.D.; Junqueira, M.L.; Kemper, E.L.; Kitajima, J.P.; Krieger, J.E.; Kuramae, E.E.; Laigh Chado, M.A.; Madeira, A.M.B.N.; Madeira, H.M.F.; Marino, C.L.; Marques, M.V.; Martins, E.A.; Authors: Martins, E.M.F.; Matsukuma, A.Y.; Menck, C.F.M.; Miracca, E.C.; Miyaki, C.Y.; F.G.; Nunes, L.R.; Oliveira, M.A.; de Oliveira, M.C.; de Oliveira, R.C.; Palmieri, D.A.; Rodrigues, V.; Rosa, A.J. de M.; de Rosa Jr., V.E.; de Sa, R.G.; Santelli, R.V.; Sawasak A/Authors: da Silva, A.C.R.; da Silva, F.R.; da Silva, A.M.; Silva Jr., W.A.; da Silveira M.; Tshako, M.H.; Vallada, H.; Van Sluys, M.A.; Verjovski-Almeida, S.; Vettore, A.L.; Z A/Reference number: A59328
A/Contents: annotation
C/Genetics:
A/Gene: XF1851
C/Superfamily: Autotransporter subtilisin-like protease precursor; subtilisin homology

Query Match 80.0%; Score 40; DB 2; Length 1000;
Best Local Similarity 60.0%; Pred. No. 13;
Matches 6; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
|||
DB 182 EHWPGGIAPG 191

RESULT 30

G84715
hypothetical protein At2g31040 [imported] - Arabidopsis thaliana
C/Species: Arabidopsis thaliana (mouse-ear cress)
C/Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
C/Accession: G84715
R/Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.B.; Umayam, L.; Tallon, L. euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J Nature 402, 761-768, 1999
A/Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A/Reference number: A84420; MUID:20083487; PMID:10617197
A/Accession: G84715
A/Status: preliminary
A/Molecule type: DNA
A/Residues: 1-350 <STO>
A/Cross-references: GB:AE002093; NID:93746067; PIDN:AAC63842.1; GSPDB:GN00139
C/Genetics:
A/Gene: At2g31040
A/Map position: 2

Query Match 74.0%; Score 37; DB 2; Length 350;
Best Local Similarity 60.0%; Pred. No. 16;
Matches 6; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
|||
DB 38 EKWSTGVAPG 47

RESULT 31

A49187
gonadotropin-releasing hormone III - sea lamprey
C/Species: Petromyzon marinus (sea lamprey)
C/Date: 19-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 03-Mar-1995
C/Accession: A49187
R/Sower, S.A.; Chang, Y.C.; Lovas, S.; Conlon, J.M.
Endocrinology 132, 1125-1131, 1993
A/Title: Primary structure and biological activity of a third gonadotropin-releasing hor A/Reference number: A49187; MUID:93178316; PMID:8440174
A/Accession: A49187
A/Status: preliminary
A/Molecule type: Protein
A/Residues: 1-10 <SOW>
A/Experimental source: brain
A/Note: sequence extracted from NCBI backbone (NCBIP:126381)

Query Match 72.0%; Score 36; DB 2; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.63;
Matches 6; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
|||
DB 1 EHWSHDWKPG 10

RESULT 32

S32507
proteasome endopeptidase complex (EC 3.4.25.1) beta-type chain N3 precursor - rat
N/Alternate names: proteasome beta-type chain N3; proteasome chain N3
C/Species: Rattus norvegicus (Norway rat)
C/Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 28-Jul-2003
C/Accession: S32507; S69598
R/Thomson, S.; Baisson, D.F.; Rivett, A.J.
FEBS Lett. 322, 135-138, 1993
A/Title: cDNA cloning of a new type of subunit of mammalian proteasomes.
A/Reference number: S32507; MUID:93245975; PMID:8482379
A/Accession: S32507
A/Molecule type: mRNA
A/Residues: 32-263 <THO>
A/Cross-references: GB:L17127; NID:9310213; PIDN:AAA42054.1; PID:G310214
A/Note: the authors translated the codon CAG for residue 74 as Glu, CAA for residue 78 a R/Thomson, S.; Rivett, A.J.
Biochem. J. 315, 733-738, 1996
A/Title: Processing of N3, a mammalian proteasome beta-type subunit.
A/Reference number: S69598; MUID:96220681; PMID:8645151
A/Accession: S69598
A/Molecule type: mRNA

A/Residues: 1-40, P', 42-49, V', 51-59, S', 61-79, L', 81, N', 83-85, F', 87-88, L', 90-140 <TH A/Cross-references: EMBL:S82190
A/Experimental source: liver
A/Note: the authors translated the codon TCC for residue 60 as Phe, CTC for residue 80 a Glu, CAA for residue 109 as Glu, and CAG for residue 113 as Glu
C/Complex: multicentric proteinase complex; cylindrical structure is made up of four stack C/Function:
A/Description: endopeptidase; peptidylglutamyl-peptide hydrolase activity
A/Pathway: protein degradation
A/Note: constitutes the major non-lysosomal proteolytic machinery; requires covalent lin C/Superfamily: proteasome endopeptidase complex, beta subunit
C/Keywords: ATP; hydrolase; proteasome; protein degradation; proteinase
F,1-11/Domain: propeptide #status predicted <PRO>
F,32-263/Product: multicatalytic endopeptidase complex chain N3 #status predicted <MAT>

Query Match 72.0%; Score 36; DB 1; Length 263;
Best Local Similarity 55.6%; Pred. No. 18;
Matches 5; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 EHWXGXKPG 10
|||
DB 11 EHWAGPAPG 19

RESULT 33

T08556
 N:Alternate names: 3-deoxyglucosone reductase 3; aldose reductase
 C:Species: Arabidopsis thaliana (mouse-ear cress)
 C:Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 22-Oct-1999
 C:Accession: T08556
 R:Bevan, M.; Zimmermann, W.; Gruenewald, A.; Wambutt, R.; Bancroft, I.; Mewes, H.W.; May
 submitted to the Protein Sequence Database, May 1999
 A:Reference number: Z16442
 A:Accession: T08556
 A:Molecule type: DNA
 A:Residues: 1-828 <BEV>
 A:Cross-references: EMBL:AL050352; GSPDB:GN00062; ATSP:F27B13.190
 A:Experimental source: cultivar Columbia; BAC clone F27B13
 C:Genetics:
 A:Gene: ATSP:F27B13.190
 A:Map position: 4
 A:Introns: 52/2; 87/1; 146/1; 777/3

Query Match 72.0%; Score 36; DB 2; Length 828;
 Best Local Similarity 60.0%; Pred. No. 60;
 Matches 6; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 EHWSXGXPPG 10
 |||||
 DB 113 EHWSYFOAPG 122

RESULT 34

A95262
 N:Alternate names: probable formate dehydrogenase (EC 1.2.1.2) alpha chain fdoG [imported] - Sinorhizobium
 C:Species: Sinorhizobium meliloti
 C:Date: 24-Aug-2001 #sequence_revision 24-Aug-2001 #text_change 17-May-2002
 C:Accession: A95262
 R:Barnett, M.J.; Fisher, R.F.; Jones, T.; Kemp, C.; Abola, A.P.; Barloy-Hubler, F.; Bowe
 ; Kalman, S.; Keating, D.H.; Palm, C.; Peck, M.C.; Surzycki, R.; Wells, D.H.; Yeh, K.C.
 Proc. Natl. Acad. Sci. U.S.A. 98, 9893-9898, 2001
 A:Title: Nucleotide sequence and predicted functions of the entire Sinorhizobium meliloti
 A:Reference number: A95262; MUID:21396509; PMID:11481432
 A:Accession: A95262
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-1034 <KUR>
 A:Cross-references: GB:AE006469; PIDN:AAK64659.1; PID:G14523056; GSPDB:GN00165
 A:Experimental source: strain 1021, megaplasmid pSYMA
 R:Galibert, F.; Finan, T.M.; Long, S.R.; Puhler, A.; Abola, P.; Ampe, F.; Barloy-Hubler,
 pela, D.; Chain, P.; Cowie, A.; Davis, R.W.; Dreano, S.; Federspiel, N.A.; Fisher, R.F.;
 L.; Hyman, R.W.; Jones, T.
 Science 293, 668-672, 2001
 A:Authors: Kahn, D.; Kahn, M.L.; Kalman, S.; Keating, D.H.; Kiss, E.; Komp, C.; Lelaure,
 heault, P.; Vandenbol, M.; Vorholter, F.J.; Weidner, S.; Wells, D.H.; Wong, K.; Yeh, K.
 A:Title: The composite genome of the legume symbiont Sinorhizobium meliloti.
 A:Reference number: A96039; MUID:21368234; PMID:11474104
 A:Contents: annotation
 C:Genetics:
 A:Gene: fdoG
 A:Genome: Plasmid
 C:Superfamily: formate dehydrogenase
 C:Keywords: oxidoreductase

Query Match 72.0%; Score 36; DB 2; Length 1034;
 Best Local Similarity 55.6%; Pred. No. 76;
 Matches 5; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 HWSXGXPPG 10
 |||||
 DB 646 HWAGTTPPG 654

RESULT 35

S39779
 N:Alternate names: aldohydrogenase (EC 1.1.1.21) - Japanese macaque (fragments)

N:Alternate names: 3-deoxyglucosone reductase 3; aldose reductase
 C:Species: Macaca fuscata (Japanese macaque)
 C:Date: 19-Mar-1997 #sequence_revision 05-Dec-1997 #text_change 12-Feb-1999
 C:Accession: S39779
 R:Sato, K.; Inazu, A.; Yamaguchi, S.; Nakayama, T.; Deyashiki, Y.; Sawada, H.; Hara, A.
 Arch. Biochem. Biophys. 307, 286-294, 1993
 A:Title: Monkey 3-deoxyglucosone reductase: tissue distribution and purification of thr
 aldose reductase.
 A:Reference number: S39779; MUID:94099609; PMID:8274014
 A:Accession: S39779
 A:Molecule type: protein
 A:Residues: 1-10; 11-52; 53-61; 62-72; 73-80 <SAT>
 A:Experimental source: kidney
 A:Note: the species is not identified by the authors; the most probable species is show
 C:Superfamily: aldehyde reductase
 C:Keywords: blocked amino end; monomer; NADP; oxidoreductase

Query Match 70.0%; Score 35; DB 2; Length 80;
 Best Local Similarity 55.6%; Pred. No. 8.3;
 Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 2 HWSXGXPPG 10
 |||||
 DB 43 HWTGFKPG 51

RESULT 36

S25968
 N:Alternate names: succinate dehydrogenase (ubiquinone) (EC 1.3.5.1) chain 3 - liverwort (Marchantia polym
 succinate dehydrogenase (ubiquinone) (EC 1.3.5.1) chain 3 - liverwort (Marchantia polym
 C:Species: mitochondrion Marchantia polymorpha
 C:Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
 C:Accession: S25968
 R:Oda, K.; Yamato, K.; Ohta, E.; Nakamura, Y.; Takemura, M.; Nozato, N.; Akashi, K.; Kai
 J. Mol. Biol. 223, 1-7, 1992
 A:Title: Gene organization deduced from the complete sequence of liverwort Marchantia p
 A:Reference number: S25941; MUID:92114051; PMID:1731062
 A:Accession: S25968
 A:Status: nucleic acid sequence not shown; translation not shown
 A:Molecule type: DNA
 A:Residues: 1-137 <ODA>
 A:Cross-references: EMBL:M68929; NID:G786182; PIDN:AAC09406.1; PID:G786193
 A:Note: the nucleotide sequence was submitted to the EMBL Data Library, February 1992
 C:Genetics:
 A:Genome: mitochondrion
 C:Superfamily: succinate dehydrogenase chain 3
 C:Keywords: mitochondrion; oxidoreductase; transmembrane protein

Query Match 70.0%; Score 35; DB 1; Length 137;
 Best Local Similarity 55.6%; Pred. No. 14;
 Matches 5; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPP 9
 :|||
 DB 128 QHWSNGQIP 136

RESULT 37

A35452
 N:Alternate names: aldohydrogenase (EC 1.1.1.21) - bovine
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr-2000
 C:Accession: A35452; A48316; A46379
 R:Schade, S.Z.; Early, S.L.; Williams, T.R.; Keady, F.J.; Heinrikson, R.L.; Grimshaw, C.
 J. Biol. Chem. 265, 3628-3635, 1990
 A:Title: Sequence analysis of bovine lens aldose reductase.
 A:Reference number: A35452; MUID:90154035; PMID:2105951
 A:Accession: A35452
 A:Molecule type: protein
 A:Residues: 1-315 <SCH>
 A:Experimental source: lens
 R:Petrash, J.M.; Favello, A.D.

Curr. Eye Res. 8, 1021-1027, 1989
 A>Title: Isolation and characterization of cDNA clones encoding aldose reductase.
 A:Reference number: A48316; MUID:90125780; PMID:2515032
 A:Accession: A48316
 A:Molecule type: mRNA
 A:Residues: 20-315 <PET>
 A:Cross-references: GB:M31463; NID:g162651; PIDN:AAA30370.1; PID:g162652
 R:Warren, J.C.; Murdock, G.L.; Ma, Y.; Goodman, S.R.; Zimmer, W.E.
 Biochemistry 32, 1401-1406, 1993
 A>Title: Molecular cloning of testicular 20 alpha-hydroxysteroid dehydrogenase: identity
 A:Reference number: A46379; MUID:93160176; PMID:8431420
 A:Accession: A46379
 A:Molecule type: mRNA
 A:Residues: 9-315 <WAR>
 A:Cross-references: GB:S54973; NID:g265403; PIDN:AAB25333.1; PID:g265404
 A:Experimental source: testes
 A>Note: sequence extracted from NCBI backbone (NCBIN:124742, NCBI:P:124745)
 C:Comment: Part of this sequence was confirmed by protein sequencing
 C:Superfamily: aldehyde reductase
 C:Keywords: acetylated amino end; monomer; oxidoreductase
 F:1/Modified site: acetylated amino end (Ala) #status experimental

Query Match 70.0%; Score 35; DB 1; Length 315;
 Best Local Similarity 55.6%; Pred. No. 34;
 Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 2 HWSGXKXPG 10
 |||
 110 HWPTGFKPG 118

Db

RESULT 38
 A39763
 aldehyde reductase (EC 1.1.1.21) [validated] - human
 N:Alternate names: aldose reductase
 C:Species: Homo sapiens (man)
 C:Date: 08-Dec-2000 #sequence_revision 08-Dec-2000 #text_change 08-Dec-2000
 A:Accession: A39763; S06591; A34583; A36510; A36436; S29630; A31432; S39368
 R:Graham, A.; Brown, L.; Hedge, P.J.; Gammack, A.J.; Markham, A.F.
 J. Biol. Chem. 266, 6872-6877, 1991
 A>Title: Structure of the human aldose reductase gene.
 A:Reference number: A39763; MUID:91201333; PMID:1901857
 A:Accession: A39763
 A>Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-316 <GRA1>
 A:Cross-references: GB:M59856; GB:M59783; NID:g178483; PIDN:AAA51712.1; PID:g178485
 R:Graham, A.; Hedge, P.J.; Powell, S.J.; Riley, J.; Brown, L.; Gammack, A.; Carey, F.; M
 Nucleic Acids Res. 17, 8368, 1989
 A>Title: Nucleotide sequence of cDNA for human aldose reductase.
 A:Reference number: S06591; MUID:90045960; PMID:2510130
 A:Accession: S06591
 A:Molecule type: mRNA
 A:Residues: 1-316 <GRA2>
 A:Cross-references: EMBL:X15414; NID:g28646; PIDN:CAA33460.1; PID:g28647
 R:Bohren, K.M.; Bullock, B.; Wermuth, B.; Gabbay, K.H.
 J. Biol. Chem. 264, 9547-9551, 1989
 A>Title: The aldo-keto reductase superfamily. cDNAs and deduced amino acid sequences of
 A:Reference number: A33851; MUID:89255461; PMID:2498333
 A:Accession: B33851
 A>Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-316 <BOH>
 A:Cross-references: GB:J04795; NID:g178486; PIDN:AAA51713.1; PID:g178487
 R:Grundmann, U.; Bohn, H.; Obermeier, R.; Amann, E.
 DNA Cell Biol. 9, 149-157, 1990
 A>Title: Cloning and prokaryotic expression of a biologically active human placental ald
 A:Reference number: A34583; MUID:90253609; PMID:2111143
 A:Accession: A34583
 A>Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-316 <GRU>

A:Cross-references: GB:M34720; NID:g179035; PIDN:AAA35560.1; PID:g179036
 R:Chung, S.; Lamendola, J.
 J. Biol. Chem. 264, 14775-14777, 1989
 A>Title: Cloning and sequence determination of human placental aldose reductase gene.
 A:Reference number: A36510; MUID:89359274; PMID:2504709
 A:Accession: A36510
 A>Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-4, 1, 6-316 <CHU>
 A:Cross-references: GB:J05017; NID:g178488; PIDN:AAA51714.1; PID:g178489
 R:Nishimura, C.; Matsura, Y.; Kokai, Y.; Akera, T.; Carper, D.; Morjana, N.; Lyons, C.;
 J. Biol. Chem. 265, 9788-9792, 1990
 A>Title: Cloning and expression of human aldose reductase.
 A:Reference number: A36436; MUID:90277668; PMID:2112546
 A:Accession: A36436
 A>Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-316 <NIS>
 A:Cross-references: GB:J05474; NID:g178490; PIDN:AAA51715.1; PID:g178491
 R:Ferraretto, A.; Negri, A.; Giuliani, A.; de Grada, L.; Fuhrman Conti, A.M.; Ronchi, S.
 Biochim. Biophys. Acta 1175, 283-288, 1993
 A>Title: Aldose reductase is involved in long-term adaptation of EUE cells to hyperosmot
 A:Reference number: S29630; MUID:93168787; PMID:8435445
 A:Accession: S29630
 A:Molecule type: protein
 A:Residues: 131-157, 'XX', 160-162 <FER>
 R:Morjana, N.A.; Lyons, C.; Flynn, T.G.
 J. Biol. Chem. 264, 2912-2919, 1989
 A>Title: Aldose reductase from human psoas muscle. Affinity labeling of an active site 1
 A:Reference number: A31432; MUID:89123393; PMID:2492527
 A:Accession: A31432
 A>Status: preliminary
 A:Molecule type: protein
 A:Residues: 244-275 <MOR>
 R:Liu, S.Q.; Bhatnagar, A.; Ansari, N.H.; Srivastava, S.K.
 Biochim. Biophys. Acta 1164, 268-272, 1993
 A>Title: Identification of the reactive cysteine residue in human placenta aldose reduct
 A:Reference number: S39368; MUID:93344424; PMID:8343525
 A:Accession: S39368
 A:Molecule type: protein
 A:Residues: 298-306, 'M', 308-316 <LIU>
 C:Genetics:
 A:Gene: GDB:ALDRI
 A:Cross-references: GDB:128041; OMIM:103880
 A:Map position: 7q35-7q35
 C:Superfamily: aldehyde reductase
 C:Keywords: NADP; oxidoreductase
 F:263/Active site: Lys #status predicted

Query Match 70.0%; Score 35; DB 1; Length 316;
 Best Local Similarity 55.6%; Pred. No. 34;
 Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 2 HWSGXKXPG 10
 |||
 111 HWPTGFKPG 119

Db

RESULT 39
 A50603
 aldehyde reductase (EC 1.1.1.21) - rat
 N:Alternate names: aldose reductase
 C:Species: Rattus norvegicus (Norway rat)
 C:Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr-2000
 A:Accession: A50603; S00079; B50609; I53649
 R:Carper, D.A.; Wistow, G.; Nishimura, C.; Graham, C.; Watanabe, K.; Fujii, Y.; Hayashi,
 Exp. Eye Res. 49, 377-388, 1989
 A>Title: A superfamily of NADPH-dependent reductases in eukaryotes and prokaryotes.
 A:Reference number: A50603; MUID:90005742; PMID:2507340
 A:Accession: A50603
 A>Status: not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-316 <CAR>

R;Carper, D.; Nishimura, C.; Shinohara, T.; Dietzschold, B.; Wistow, G.; Craft, C.; Kador
FEBS Lett. 220, 209-213, 1987
A;Title: Aldose reductase and rho-crystallin belong to the same protein superfamily as a
A;Reference number: S00079; MUID:87276556; PMID:3111886
A;Accession: S00079
A;Molecule type: mRNA
A;Residues: 33-316 <CA2>
A;Cross-references: EMBL:X05884
A;Note: 45-Ser and 54-Trp were also found
A;Accession: B60603
A;Molecule type: protein
A;Residues: 34-60, 'XXX', 92-108, 146-173, 204-231, 244-252, 276-294 <CA3>
A;Note: part of this sequence was confirmed by protein sequencing
R;Graham, C.E.; Szpirer, C.; Levan, G.; Carper, D.
Gene 107, 259-267, 1991
A;Title: Characterization of the aldose reductase-encoding gene family in rat.
A;Reference number: 153649; MUID:92084116; PMID:1748296
A;Accession: 153649
A;Status: translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-316 <RES>
A;Cross-references: GB:M60322; NID:G202851; PIDN:AAA0721.1; PID:G202852
C;Comment: Aldose reductase catalyzes reduction of a variety of sugars to sugar alcohols
C;Comment: This enzyme is active in the eye lens, where an accumulation of sugar alcohol
C;Genetics:
A;Introns: 22/3; 78/3; 117/3; 143/3; 184/3; 220/2; 247/3; 275/3; 303/2
C;Superfamily: aldehyde reductase
C;Keywords: eye lens; NADP; oxidoreductase
F;263/Active site: Lys #status predicted
Query Match 70.0%; Score 35; DB 1; Length 316;
Best Local Similarity 55.6%; Pred. No. 34;
Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
QY 2 HWSXGXKPG 10
DB 111 HWPTGFKPG 119
RESULT 40
A59021
aldehyde reductase (EC 1.1.1.21) [validated] - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 24-Jul-1998 #sequence_revision 24-Jul-1998 #text_change 15-Sep-2000
C;Accession: A59021; A59019; S43018
R;Kubisecki, T.J.; Green, N.C.; Flynn, T.G.
Adv. Exp. Med. Biol. 328, 259-265, 1993
A;Title: Location of an essential arginine residue in the primary structure of pig aldose
A;Reference number: A59021; MUID:93263021; PMID:8493902
A;Accession: A59021
A;Molecule type: mRNA
A;Residues: 1-316 <KUB>
A;Cross-references: GB:U46065; NID:G1184819; PIDN:AAC4851.1; PID:G1184820
A;Experimental source: adult brain
A;Note: submitted to Genbank January 1996
R;Jarninod, M.; Potier, N.; Klarskov, K.; Reymann, J.M.; Sorokine, O.; Kieffer, S.; Bart
Eur. J. Biochem. 218, 893-903, 1993
A;Title: Sequence of pig lens aldose reductase and electrospray mass spectrometry of non
A;Reference number: A59018; MUID:94103988; PMID:8281941
A;Accession: A59018
A;Molecule type: protein
A;Residues: 2-98, 'D', 100-316 <JQA1>
A;Experimental source: eye lens
A;Note: the authors found that a disulfide bond between residues 299-304 which they thou
A;Accession: S43018
A;Molecule type: protein
A;Residues: 2-12 <JQA2>
R;Moras, D.; Podjarny, A.
submitted to the Brookhaven Protein Data Bank, April 1997
A;Reference number: A69051; PDB:1AH4
A;Contents: annotation; X-ray crystallography, 2.0 angstroms, residues 2-98, 'D', 100-316
R;Rondeau, J.M.; Tete-Favier, F.; Podjarny, A.; Reymann, J.M.; Barth, P.; Biellmann, J.F.
submitted to the Brookhaven Protein Data Bank, February 1993

A;Reference number: A52185; PDB:1DLA
A;Contents: annotation; X-ray crystallography, 3.0 angstroms, residues 2-98, 'D', 100-316
C;Genetics:
A;Gene: ALR2
C;Superfamily: aldehyde reductase
C;Keywords: acetylated amino end; oxidoreductase
F;2-316/Product: aldehyde reductase #status experimental <MAT>
F;2/Modified site: acetylated amino end (Ala) (in mature form) #status experimental
Query Match 70.0%; Score 35; DB 2; Length 316;
Best Local Similarity 55.6%; Pred. No. 34;
Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
QY 2 HWSXGXKPG 10
DB 111 HWPTGFKPG 119
RESULT 41
I49484
aldehyde reductase (EC 1.1.1.21) - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 21-Jul-2000
C;Accession: I49484
R;Gui, T.; Tanimoto, T.; Kokai, Y.; Nishimura, C.
Eur. J. Biochem. 227, 448-453, 1995
A;Title: Presence of a closely related subgroup in the aldo-ketoreductase family of the
A;Reference number: I49484; MUID:95154325; PMID:7851421
A;Accession: I49484
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: mRNA
A;Residues: 1-316 <RES>
A;Cross-references: GB:D32250; NID:G1384073; PIDN:BAA06980.1; PID:G786001
C;Superfamily: aldehyde reductase
C;Keywords: NADP; oxidoreductase
Query Match 70.0%; Score 35; DB 2; Length 316;
Best Local Similarity 55.6%; Pred. No. 34;
Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
QY 2 HWSXGXKPG 10
DB 111 HWPTGFKPG 119
RESULT 42
T32849
hypothetical protein K05F6.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 29-Oct-1999
C;Accession: T32849
R;Du, Z.; Goela, D.
submitted to the EMBL Data Library, December 1997
A;Description: The sequence of C. elegans cosmid K05F6.
A;Reference number: Z21233
A;Accession: T32849
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-532 <DUZ>
A;Cross-references: EMBL:AF040653; PIDN:AAB95031.1; GSPDB:GN00020; CESP:K05F6.2
A;Experimental source: strain Bristol N2; clone K05F6
C;Genetics:
A;Gene: CESP:K05F6.2
A;Map position: 2
A;Introns: 194/3; 290/1; 334/2; 430/1
Query Match 70.0%; Score 35; DB 2; Length 532;
Best Local Similarity 50.0%; Pred. No. 59;
Matches 5; Conservative 1; Mismatches 4; Indels 0; Gaps 0;
QY 1 EHWSXGXKPG 10
DB 438 KHWIAGLRPG 447

A;Residues: 1-300 <SCH>
A;Cross-references: EMBL:X76943; NID:G439626; PIDN:CAA54262.1; PID:G439627
C;Superfamily: herpesvirus immediate-early protein IE68

Query Match 68.0%; Score 34; DB 2; Length 300;
Best Local Similarity 62.5%; Pred. No. 50;
Matches 5; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 3 WSGXGXP 10
DB 265 WSGGSPG 272

RESULT 46
A53440
A;Molecule type: mouse
A;Species: Mus musculus (house mouse)
C;Date: 19-May-1995 #sequence_revision 19-May-1995 #text_change 11-Jun-1999
C;Accession: A53440
R;Donohue, P.J.; Alberts, G.F.; Hampton, B.S.; Winkles, J.A.
J. Biol. Chem. 269, 8604-8609, 1994
A;Title: A delayed-early gene activated by fibroblast growth factor-1 encodes a protein
A;Reference number: A53440; MUID:94179253; PMID:7510692
A;Accession: A53440
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-316 <DON>
A;Cross-references: GB:U04204; NID:G463376; PIDN:AAA16953.1; PID:G463377
C;Superfamily: aldehyde reductase

Query Match 68.0%; Score 34; DB 2; Length 316;
Best Local Similarity 55.6%; Pred. No. 53;
Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
QY 2 HWSGXGXP 10
DB 111 HWPQGLQF 119

RESULT 47
JT0386
A;Molecule type: DNA
A;Residues: 1-436 <MAC>
A;Cross-references: GB:M23540; NID:G340936; PIDN:AAA32700.1; PID:G514316
A;Experimental source: ATCC 46951
C;Genetics:
A;Gene: pacA
A;Introns: 119/3; 219/1
C;Keywords: phosphoric monoester hydrolase
F;1-20/Domain: signal sequence #status predicted <SIG>
F;21-426/Product: acid phosphatase #status predicted <MAT>
Query Match 68.0%; Score 34; DB 2; Length 436;
Best Local Similarity 50.0%; Pred. No. 74;
Matches 5; Conservative 1; Mismatches 4; Indels 0; Gaps 0;
QY 1 EHWXGXGXP 10
DB 121 QDWSSGRSPG 130

RESULT 48
T21643
hypothetical protein F32B6.8 - Caenorhabditis elegans

RESULT 43
A42094
regulator protein bW2 - smut fungus (Ustilago maydis)
C;Species: Ustilago maydis (corn smut)
C;Date: 04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 24-Sep-1999
C;Accession: A42094
R;Gillissen, B.; Bergemann, J.; Sandmann, C.; Schroeder, B.; Boelker, M.; Kahmann, R.
Cell 68, 647-657, 1992
A;Title: A two-component regulatory system for self/non-self recognition in Ustilago may
A;Reference number: A42094; MUID:92154679; PMID:1739973
A;Accession: A42094
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-626 <GIL>
A;Cross-references: GB:M84182; NID:G170574; PIDN:AAA34221.1; PID:G170575
A;Note: sequence extracted from NCBI backbone (NCBI:82507, NCBIP:82508)
C;Superfamily: unassigned homeobox proteins; homeobox homology
C;Keywords: DNA binding; homeobox; nucleus; transcription regulation
F;136-192/Domain: homeobox homology <HOK>

Query Match 70.0%; Score 35; DB 2; Length 626;
Best Local Similarity 40.0%; Pred. No. 70;
Matches 4; Conservative 2; Mismatches 4; Indels 0; Gaps 0;
QY 1 EHWXGXGXP 10
DB 458 DHWNSNTAPG 467

RESULT 44
A84112
alkaline amylopullulanase BH3697 [imported] - Bacillus halodurans (strain C-125)
C;Species: Bacillus halodurans
C;Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 22-Jun-2003
C;Accession: A84112
R;Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fujii, F.; Hira
Nucleic Acids Res. 28, 4317-4331, 2000
A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and
A;Reference number: A83650; MUID:20512582; PMID:11058132
A;Accession: A84112
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-1072 <STO>
A;Cross-references: GB:AP001519; GB:BA000004; NID:G10176109; PIDN:BA807416.1; GSPDB:GN00
A;Experimental source: strain C-125
C;Genetics:
A;Gene: BH3697
C;Superfamily: pullulanase type debranching enzyme

Query Match 70.0%; Score 35; DB 2; Length 1072;
Best Local Similarity 55.6%; Pred. No. 1.2e+02;
Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
QY 1 EHWXGXGXP 9
DB 178 EHWPSGANP 186

RESULT 45
S41171
transpressor protein BICP22 - bovine herpesvirus 1
C;Species: bovine herpesvirus 1
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 08-Oct-1999
C;Accession: S41171
R;Schwyzer, M.; Wirth, U.V.; Vogt, B.; Fraefel, C.
submitted to the EMBL Data Library, December 1993
A;Description: Transpressor protein BICP22 of bovine herpesvirus 1 is encoded by a spl
A;Reference number: S41171
A;Accession: S41171
A;Status: preliminary
A;Molecule type: DNA

C:Species: Caenorhabditis elegans
C:Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 28-Jul-2000
C:Accession: T21643
R: Basham, V.
submitted to the EMBL Data Library, October 1996
A:Reference number: Z19453
A:Accession: T21643
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-495 <WLL>
A:Cross-references: EMBL:Z81074; PIDN:CA803042.1; GSPDB:GN00022; CESP:F32B6.8
A:Experimental source: clone F32B6
C:Genetics:
A:Gene: CESP:F32B6.8
A:Map position: 4
A:Introns: 12/2: 48/2; 111/1; 151/1; 207/3; 250/3; 272/3; 348/3; 374/1; 416/3; 448/3
C:Superfamily: GTPase activating protein SPBC530.01

Query Match 68.0%; Score 34; DB 2; Length 495;
Best Local Similarity 62.5%; Pred. No. 84;
Matches 5; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 3 WSGXGXP 10
|||
Db 4 WSGSTPG 11

RESULT 49
H83886
hypothetical protein BH1896 [imported] - Bacillus halodurans (strain C-125)
C:Species: Bacillus halodurans
C:Date: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001
C:Accession: H83886
R: Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, N.; Masui, N.; Fuji, F.; Hira
Nucleic Acids Res. 28, 4317-4331, 2000
A:Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and
A:Reference number: A83650; MUID:20512582; PMID:11058132
A:Accession: H83886
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-497 <STO>
A:Cross-references: GB:AP001513; GB:BA000004; NID:G10174345; PIDN:BA805615.1; GSPDB:GN00
A:Experimental source: strain C-125
C:Genetics:
A:Gene: BH1896

Query Match 68.0%; Score 34; DB 2; Length 497;
Best Local Similarity 55.6%; Pred. No. 85;
Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 2 HWSXGXP 10
|||
Db 33 HWYAGDDPG 41

RESULT 50
B86454
hypothetical protein F9L11.12 - Arabidopsis thaliana
C:Species: Arabidopsis thaliana (mouse-ear cress)
C:Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Dec-2001
C:Accession: B86454
R: Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso,
Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Creasy, T.H.; Dewar, K.;
ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A:Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.
C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali,
Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A:Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon,
ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A:Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A:Reference number: A86141; MUID:21016719; PMID:11130712
A:Accession: B86454

A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-763 <STO>
A:Cross-references: GB:AB005172; NID:G6910572; PIDN:AAF31277.1; GSPDB:GN00141
C:Genetics:
A:Map position: 1
C:Superfamily: subtilisin-like proteinase ag12; subtilisin homology
Query Match 68.0%; Score 34; DB 2; Length 763;
Best Local Similarity 55.6%; Pred. No. 1.3e+02;
Matches 5; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
QY 2 HWSXGXP 10
|||
Db 163 HWKGCCEPG 171
Search completed: March 2, 2004, 19:28:32
Job time: 21.5 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:16:38 ; Search time 10 Seconds

(without alignments)
52.070 Million cell updates/sec

Title: US-09-857-115-7

Perfect score: 50

Sequence: 1 EHWXGXPG 10

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 500 summaries

Database : SwissProt_42:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	42	84.0	10	GONI_CLUPA	P81749 clupea pall
2	42	84.0	91	GONI_ORILA	O94gc8 o prognado
3	42	84.0	94	GONI_HAPBU	P51918 haplochromi
4	42	84.0	95	GONI_MORSA	O73812 morone saxa
5	42	84.0	95	GONI_PAGMA	P70074 pagrus majo
6	42	84.0	95	GONI_SPAAU	P51919 sparus auro
7	42	84.0	99	GONI_DICLA	O91a10 dicentrarch
8	41	82.0	10	GONI_ALIMI	P37041 alligator m
9	41	82.0	61	GONI_SHEEP	O28588 ovis aries
10	41	82.0	63	GONI_MESAU	O05163 mesocricetu
11	41	82.0	67	GONI_MACMU	P55247 macaca mula
12	41	82.0	80	GONI_CLAGA	P33439 ciarias gar
13	41	82.0	89	GONI_XENLA	P45656 xenopus lae
14	41	82.0	90	GONI_MOUSE	P13562 mus musculu
15	41	82.0	90	GONI_RANCA	O90y63 rana catesb
16	41	82.0	91	GONI_PIG	P49921 sus scrofa
17	41	82.0	92	GONI_CHICK	P37042 gallus gall
18	41	82.0	92	GONI_HUMAN	P01148 homo sapien
19	41	82.0	92	GONI_RAT	P07490 rattus norv
20	41	82.0	92	GONI_TUPGB	O95335 tupia glis
21	40	80.0	10	GONI_CHICK	P37043 gallus gall
22	40	80.0	10	GONI_ONCKE	P20367 oncorhynch
23	40	80.0	10	GONI_SQUAC	P27429 squallus sca
24	40	80.0	74	GONI_ONCMY	P55246 oncorhynch
25	40	80.0	74	GONI_ONCTS	O92097 oncorhynch
26	40	80.0	82	GONI_ORILA	O94gc9 o prognado
27	40	80.0	82	GONI_ONCMA	P30973 oncorhynch
28	40	80.0	82	GONI_SALSA	P35629 salmo salar
29	40	80.0	82	GONI_SALTR	P45653 salmo trutt
30	40	80.0	85	GONI_DICLA	O91a08 dicentrarch
31	40	80.0	85	GONI_HAPBU	P37044 n prognado
32	40	80.0	85	GONI_MORSA	O73811 morone saxa
33	40	80.0	85	GONI_SPAAU	P51925 sparus auro

34	40	80.0	86	1	GO2A_CARAU	P51924 carassius a
35	40	80.0	86	1	GO2B_CARAU	O42471 carassius a
36	40	80.0	86	1	GON2_CIAGA	P43306 ciarias gar
37	40	80.0	86	1	GON2_ONCMY	O42241 oncorhynch
38	40	80.0	86	1	GON2_PORNO	O91330 rutilus rut
39	40	80.0	89	1	GON3_PORNO	P51922 porichthys
40	40	80.0	90	1	GON3_DICLA	O91a09 dicentrarch
41	40	80.0	90	1	GON3_HAPBU	P45652 haplochromi
42	40	80.0	90	1	GON3_ORILA	O94d49 o prognado
43	40	80.0	90	1	GON3_PAGMA	P51921 pagrus majo
44	40	80.0	90	1	GON3_SPAAU	P51923 sparus auro
45	40	80.0	90	1	GON8_RANDY	O91a02 rana dybows
46	40	80.0	93	1	GON2_RANCA	O9dg36 rana catesb
47	40	80.0	94	1	GON3_CARAU	P51917 carassius a
48	40	80.0	94	1	GON3_RUTRU	O92106 rutilus rut
49	40	80.0	110	1	GON2_SUNMU	O97886 sunius muri
50	40	80.0	114	1	GON2_TUPGB	O95336 tupia glis
51	40	80.0	120	1	GON2_HUMAN	O43555 homo sapien
52	36	72.0	154	1	PSB4_PIG	O29384 sus scrofa
53	36	72.0	263	1	PSB4_RAT	P34067 rattus norv
54	36	72.0	264	1	PSB4_MOUSE	P99026 mus musculu
55	35	70.0	92	1	GONI_CAVPO	O54713 cavia porce
56	35	70.0	137	1	C560_MARPO	P35721 marchantia
57	35	70.0	315	1	ALDR_BOVIN	P16116 bos taurus
58	35	70.0	315	1	ALDR_HUMAN	P15121 homo sapien
59	35	70.0	315	1	ALDR_MOUSE	P45376 mus musculu
60	35	70.0	315	1	ALDR_PIG	P80276 sus scrofa
61	35	70.0	315	1	ALDR_RAT	P07943 rattus norv
62	35	70.0	508	1	VL1_HPV1A	P03099 human papil
63	34	68.0	301	1	AKEL_MOUSE	O9dct1 mus musculu
64	34	68.0	315	1	ALD2_MOUSE	P45377 mus musculu
65	34	68.0	436	1	FPAL_ASPNG	P20584 aspergillus
66	33	66.0	10	1	GON2_CHEPR	P80678 chelyosoma
67	33	66.0	10	1	GON3_PETMA	P30948 petromyzon
68	33	66.0	291	1	Y126_TBPA	O83163 treponema p
69	33	66.0	510	1	VL1_HPV2A	P25486 human papil
70	33	66.0	510	1	VL1_HPV57	P22162 human papil
71	33	66.0	594	1	VL1_HPV27	P36736 human papil
72	32	64.0	10	1	GONI_CHEPR	P80677 chelyosoma
73	32	64.0	206	1	EBRP_MOUSE	O9d0p0 mus musculu
74	32	64.0	434	1	ACEA_ECOLI	P05313 escherichia
75	32	64.0	756	1	EFER_HUMAN	O75154 homo sapien
76	32	64.0	2483	1	COA2_HUMAN	O00763 homo sapien
77	31	62.0	228	1	C79B_MOUSE	P15630 mus musculu
78	31	62.0	229	1	C79B_HUMAN	P40259 homo sapien
79	31	62.0	235	1	CAH1_RABIT	P07452 oryctolagus
80	31	62.0	246	1	AQPM_ARCFU	O28846 archaeoglob
81	31	62.0	298	1	BIR7_HUMAN	O96ca5 homo sapien
82	31	62.0	453	1	YAW6_SCHPO	O10181 schizosacch
83	31	62.0	487	1	YAW6_BORPE	O7vz47 bordetella
84	31	62.0	495	1	YU19_BORPA	O7w954 bordetella
85	31	62.0	495	1	YL07_BORBR	O7w954 bordetella
86	31	62.0	503	1	VL1_HPV66	O80961 human papil
87	31	62.0	510	1	DMP1_BOVIN	O95120 bos taurus
88	31	62.0	513	1	DMP1_HUMAN	O13316 homo sapien
89	31	62.0	528	1	VL1_HPV34	P36738 human papil
90	30	60.0	110	1	YHEJ_ACTAC	P96769 actinobacil
91	30	60.0	145	1	RNPA_XANAC	O8pe63 xanthomonas
92	30	60.0	148	1	RNPA_XANCP	O8pe63 xanthomonas
93	30	60.0	152	1	AAC6_ENTAE	P50888 enterobacte
94	30	60.0	190	1	DSR6_HUMAN	P57055 homo sapien
95	30	60.0	204	1	CU67_HUMAN	P58512 homo sapien
96	30	60.0	213	1	RS3_OCEIH	P59182 oceanobacil
97	30	60.0	217	1	RS3_BACST	P23309 bacillus st
98	30	60.0	218	1	RS3_LISNO	O92713 listeria mo
99	30	60.0	219	1	RS3_BACHD	O92988 bacillus ha
100	30	60.0	222	1	DSBA_ENTAM	O9xdp1 enterobacte
101	30	60.0	222	1	DSBL_ECOL6	P97037 escherichia
102	30	60.0	228	1	VG77_HSV11	O00149 ictaluriid h
103	30	60.0	291	1	Y491_MYCTU	O11164 mycobacteri
104	30	60.0	294	1	HUPK_RHOCA	P30797 rhodobacter
105	30	60.0	305	1	CAH4_MOUSE	O64444 mus musculu
106	30	60.0	346	1	GP81_HUMAN	O9bxc0 homo sapien

107	30	60.0	364	1	ARGC_BIFLO	P59305 bifidobacte	180	29	58.0	532	1	CG48 HUMAN	Q9y5j1 homo sapien
108	30	60.0	380	1	SCS3 YEAST	P53012 saccharomyc	181	29	58.0	532	1	VL1_HPV03	P36731 human papil
109	30	60.0	437	1	CAH9 MOUSE	Q8vbb5 mus musculu	182	29	58.0	557	1	TR2M_PSRSS	P06617 pseudomonas
110	30	60.0	439	1	CAH9 HUMAN	Q16790 homo sapien	183	29	58.0	560	1	GUP1_YEAST	P53154 saccharomyc
111	30	60.0	485	1	ATPB_MYCLE	P45823 mycobacteri	184	29	58.0	594	1	STB1_HUMAN	Q84320 homo sapien
112	30	60.0	486	1	ATPB_MYCTU	Q10593 mycobacteri	185	29	58.0	594	1	STB1_MOUSE	Q85959 mus musculu
113	30	60.0	497	1	VL1_HPV54	P50819 human papil	186	29	58.0	828	1	NAPA_ECOLI	P33937 escherichia
114	30	60.0	499	1	VL1_HPV53	Q05113 human papil	187	29	58.0	831	1	NAPA_ALCEU	P39185 aicalligenes
115	30	60.0	504	1	VL1_HPV70	P50793 human papil	188	29	58.0	831	1	NAPA_PARP	Q56350 paracoccus
116	30	60.0	505	1	VL1_HPV61	P50822 human papil	189	29	58.0	831	1	NAPA_RHOSH	Q53176 rhodobacter
117	30	60.0	505	1	VL1_HPV68	P54669 human papil	190	29	58.0	926	1	ATCL_SYNEP7	P37278 synechococc
118	30	60.0	505	1	VL1_HPVME	P27964 human papil	191	29	58.0	1150	1	DPOL_ADSECT	P87553 canine aden
119	30	60.0	508	1	VL1_HPV30	Q02515 human papil	192	29	58.0	1335	1	UTX_MOUSE	Q70546 mus musculu
120	30	60.0	531	1	YQCG_BACSU	P45942 bacillus su	193	29	58.0	1335	1	ATC3_YEAST	P39524 saccharomyc
121	30	60.0	534	1	VL1_HPV56	P36743 human papil	194	29	58.0	1581	1	LMG3_MOUSE	P09056 mus musculu
122	30	60.0	539	1	VL1_HPV45	P36741 human papil	195	29	58.0	1927	1	LFH_HUMAN	P09848 homo sapien
123	30	60.0	568	1	VL1_HPV18	P06794 human papil	196	29	58.0	2710	1	TOXA_CLODI	P16154 clostridium
124	30	60.0	628	1	MSLN_HUMAN	Q13421 homo sapien	197	28.5	57.0	382	1	GLN1_CHLRE	Q42688 chlamydomon
125	30	60.0	682	1	E13B_BACCI	P23903 bacillus ci	198	28.5	57.0	567	1	YD20_MYCTU	Q10633 mycobacteri
126	30	60.0	733	1	VINE_MOUSE	Q9r128 mus musculu	199	28.5	57.0	567	1	YD54_MYCHO	P59972 mycobacteri
127	30	60.0	773	1	SYV_METHH	Q026861 methanobact	200	28.5	57.0	1170	1	TSP1_MOUSE	P07996 homo sapien
128	30	60.0	1016	1	FDQG_ECOLI	P32176 escherichia	201	28.5	57.0	1170	1	TSP1_MOUSE	P35441 mus musculu
129	30	60.0	1040	1	AXOI_HUMAN	Q02246 homo sapien	202	28.5	57.0	1172	1	TSP2_HUMAN	P35442 homo sapien
130	30	60.0	1170	1	TSP2_BOVIN	Q05116 bos taurus	203	28.5	57.0	1173	1	TSP2_XENLA	P35448 xenopus lae
131	30	60.0	136	1	HV01_XENLA	P20956 xenopus lae	204	28.5	57.0	1178	1	TSP2_CHICK	P35440 gallus gall
132	23	58.0	156	1	MOAE_BACHD	Q9k817 bacillus ba	205	28	56.0	76	1	BB11_SCHCO	P78742 schizophyll
133	29	58.0	165	1	LITH_MOUSE	P43137 mus musculu	206	28	56.0	78	1	DSVD_DESVH	Q46582 desulfovibr
134	29	58.0	165	1	LITH_RAT	P10758 rattus norv	207	28	56.0	79	1	YKQC_BACSU	P54566 bacillus su
135	29	58.0	165	1	MOAE_ANASP	Q8ywh5 anabaena sp	208	28	56.0	144	1	YXEF_BACSU	P54945 bacillus su
136	29	58.0	166	1	LITA_HUMAN	P05451 homo sapien	209	28	56.0	153	1	VL1_HPV64	P50824 human papil
137	29	58.0	166	1	LITB_HUMAN	P48304 homo sapien	210	28	56.0	158	1	RACR_ECOLI	P76062 escherichia
138	29	58.0	173	1	LIT2_MOUSE	Q08731 mus musculu	211	28	56.0	170	1	Y887_MYCTU	Q10548 mycobacteri
139	29	58.0	216	1	PAAD_STRCO	Q9kyp1 streptomyc	212	28	56.0	174	1	E1A_ADECR	Q96676 canine aden
140	29	58.0	294	1	NUCG_MOUSE	Q08600 mus musculu	213	28	56.0	188	1	YEAE_SCHPO	Q14076 schizosacch
141	29	58.0	315	1	6DCS_SOYBN	P26690 glycine max	214	28	56.0	205	1	RNH2_CANBF	Q7vrd2 candidatus
142	29	58.0	318	1	GRXC_BACAN	Q9zfb3 bacillus an	215	28	56.0	230	1	E1A_ADECC	Q85941 canine aden
143	29	58.0	335	1	CD1D_SHEEP	Q62848 ovis aries	216	28	56.0	250	1	RS5_MYCCA	P10128 mycoplasma
144	29	58.0	335	1	Z396_HUMAN	Q96n95 homo sapien	217	28	56.0	255	1	RL4_PVRAB	Q9v1t6 pyrococcus
145	29	58.0	368	1	AROC_PYRAE	Q8z490 pyrobaculum	218	28	56.0	255	1	RL4_PVRHO	Q59420 pyrococcus
146	29	58.0	382	1	SURI_YEAST	P33300 saccharomyc	219	28	56.0	256	1	HA2B_RAT	P20037 rattus norv
147	29	58.0	385	1	TS50_HUMAN	Q9u138 homo sapien	220	28	56.0	261	1	MM26_HUMAN	Q9nrel homo sapien
148	29	58.0	387	1	SOX1_HUMAN	C00570 homo sapien	221	28	56.0	262	1	CAH1_MONDO	Q8hy33 monodelphis
149	29	58.0	391	1	SOX1_MOUSE	P53783 mus musculu	222	28	56.0	264	1	PSB4_HUMAN	P28070 homo sapien
150	29	58.0	393	1	C143_MYCTU	O53936 mycobacteri	223	28	56.0	268	1	CEBD_MOUSE	Q00322 mus musculu
151	29	58.0	479	1	VGLC_HSV2G	P03173 herpes simp	224	28	56.0	268	1	CEBD_RAT	Q03484 rattus norv
152	29	58.0	480	1	VGLC_HSV23	P06475 herpes simp	225	28	56.0	268	1	DAPB_BRUME	Q8ydc8 brucella me
153	29	58.0	480	1	VGLC_HSV2H	Q89730 herpes simp	226	28	56.0	268	1	DAPB_BRUSU	P49707 brucella su
154	29	58.0	484	1	UAP1_CAEEL	Q18493 caenorhabdi	227	28	56.0	269	1	CEBD_HUMAN	Q89wk2 bradyrhizob
155	29	58.0	499	1	VL1_HPV13	Q02273 human papil	228	28	56.0	271	1	DAB1_RHILLO	P58210 rhizobium l
156	29	58.0	499	1	VL1_HPV33	P06416 human papil	229	28	56.0	273	1	URED_BORPE	O06704 bordetella
157	29	58.0	500	1	VL1_HPV44	P50816 human papil	230	28	56.0	284	1	TRUB_SYNEL	Q8cwm3 synechococc
158	29	58.0	500	1	VL1_HPV6A	P03100 human papil	231	28	56.0	287	1	REN_VIBCH	Q9knj6 vibrio chol
159	29	58.0	501	1	VL1_HPV11	P04012 human papil	232	28	56.0	297	1	REN_VIBCH	P87526 mycoplasma
160	29	58.0	501	1	VL1_HPV55	P50820 human papil	233	28	56.0	301	1	REN_VIBCPA	Q75265 vibrio para
161	29	58.0	501	1	VL1_HPV28	P22163 rhesus papil	234	28	56.0	314	1	REN_VIBPA	P87526 mycoplasma
162	29	58.0	502	1	VL1_HPV28	P50791 human papil	235	28	56.0	317	1	SOX2_HUMAN	P48431 homo sapien
163	29	58.0	502	1	VL1_HPV35	P27232 human papil	236	28	56.0	319	1	SOX2_MOUSE	P48432 mus musculu
164	29	58.0	502	1	VL1_HPV42	P27233 human papil	237	28	56.0	320	1	SOX2_SHEEP	P54231 ovis aries
165	29	58.0	502	1	VL1_PCPV1	Q02274 pygmy chimp	238	28	56.0	329	1	CQT4_HUMAN	Q9bxj3 homo sapien
166	29	58.0	503	1	VL1_HPV26	P36735 human papil	239	28	56.0	334	1	CSN3_SCHPO	Q9ut51 schizosacch
167	29	58.0	503	1	VL1_HPV29	P50792 human papil	240	28	56.0	335	1	MPB1_HUMAN	P22712 homo sapien
168	29	58.0	503	1	VL1_HPV32	P36737 human papil	241	28	56.0	337	1	CAHE_HUMAN	Q9ulx7 homo sapien
169	29	58.0	504	1	VL1_HPV31	P36738 human papil	242	28	56.0	338	1	HEMZ_PSEPK	Q89pva pseudomonas
170	29	58.0	504	1	VL1_HPV51	P26536 human papil	243	28	56.0	342	1	YQ6E_CAEEL	Q09275 caenorhabdi
171	29	58.0	505	1	CPDB_MOUSE	P24457 mus musculu	244	28	56.0	346	1	YR24_CAEEL	Q09341 caenorhabdi
172	29	58.0	505	1	VL1_HPV39	P24938 human papil	245	28	56.0	353	1	KERA_CHICK	Q42235 gallus gall
173	29	58.0	511	1	VGLC_HSV11	P10228 herpes simp	246	28	56.0	353	1	KERA_COTUA	Q9de66 coturnix co
174	29	58.0	511	1	VGLC_HSV1K	P28986 herpes simp	247	28	56.0	356	1	VH73_VIBCH	Q9kr70 vibrio chol
175	29	58.0	514	1	G6PD_MYCTU	Q08407 mycobacteri	248	28	56.0	369	1	CYRG_HUMAN	P31785 homo sapien
176	29	58.0	524	1	VL1_HPV38	P26535 human papil	249	28	56.0	374	1	PRLB_ACHLY	P27458 achromobact
177	29	58.0	529	1	VL1_HPV52	Q05138 human papil	250	28	56.0	378	1	MNT3_CANAL	P87207 candida alb
178	29	58.0	531	1	VL1_HPV10	P36732 human papil	251	28	56.0	378	1	TRM3_XANAC	Q9p108 xanthomonas
179	29	58.0	531	1	VL1_HPV16	P03101 human papil	252	28	56.0	378	1	TRM3_XANCF	Q9p9a1 xanthomonas

253	28	56.0	379	1	CYRG BOVIN	Q95118 bos taurus	326	28	56.0	1043	1	MYLA HUMAN	Q9ubc5 homo sapien
254	28	56.0	379	1	SGAA METEX	P55819 methylobact	327	28	56.0	1111	1	UN84 CAEL	Q20745 caenorhabdi
255	28	56.0	379	1	TRMU XYLEFA	Q9pdd9 xyliella fas	328	28	56.0	1181	1	HAIR RAT	P97609 rattus norv
256	28	56.0	379	1	TRMU XYLEFA	Q9pdd9 xyliella fas	329	28	56.0	1182	1	HAIR MOUSE	Q61645 mus musculu
257	28	56.0	389	1	GPDI ZYGRO	Q9hgy1 zygosacchar	330	28	56.0	1189	1	HAIR HUMAN	Q43593 homo sapien
258	28	56.0	391	1	GPDI YEAST	Q00055 saccharomyc	331	28	56.0	1216	1	DEGP RAT	Q63191 rattus norv
259	28	56.0	393	1	KTRI YEAST	P27810 saccharomyc	332	28	56.0	1534	1	DNM1 ARATH	P34881 arabidopsis
260	28	56.0	397	1	LEFI MOUSE	P27782 mus musculu	333	28	56.0	1928	1	LPH RAT	Q02401 rattus norv
261	28	56.0	397	1	LEFI RAT	Q9qxn1 rattus norv	334	28	56.0	2236	1	PIR1 DROME	P05990 drosophila
262	28	56.0	399	1	LEFI HUMAN	Q9ujm1 homo sapien	335	28	56.0	2318	1	NTC3 MOUSE	Q61982 mus musculu
263	28	56.0	401	1	GPDI ZYGRO	Q9hgy2 zygosacchar	336	28	56.0	2319	1	NTC3 RAT	Q9r172 rattus norv
264	28	56.0	406	1	ACV1 PIG	P37111 sus scrofa	337	28	56.0	2321	1	NTC3 HUMAN	Q9um47 homo sapien
265	28	56.0	408	1	ACV1 HUMAN	Q03154 homo sapien	338	28	56.0	2366	1	TOXB CLODI	PI8177 clostridium
266	28	56.0	418	1	LASA PSEAE	P14789 pseudomonas	339	28	56.0	2485	1	PTND HUMAN	CI2923 homo sapien
267	28	56.0	431	1	KRE2 CANAL	Q00310 candida alb	340	28	56.0	3564	1	CSM1 MOUSE	Q92313 mus musculu
268	28	56.0	432	1	GLN2 DRUCA	Q2P506 daucus caro	341	28	56.0	3947	1	SID2 USTMA	Q43103 utellago ma
269	28	56.0	432	1	Y41L RHISN	P55495 rhizobium s	342	28	56.0	4499	1	DYHA CHLRE	Q39610 chlamydomon
270	28	56.0	440	1	GPDI YEAST	P41911 saccharomyc	343	28	56.0	4705	1	FAT2 DROME	Q9w71 drosophila
271	28	56.0	442	1	KRE2 YEAST	P27809 saccharomyc	344	28	56.0	763	1	PEPX LACLA	Q9ce01 lactococcus
272	28	56.0	461	1	MNT2 CANAL	P46592 candida alb	345	28	56.0	763	1	PEPX LACLC	P22346 lactococcus
273	28	56.0	468	1	SPSR BACSU	P37875 bacillus su	346	28	56.0	110	1	RPCH CARMA	Q26334 carcinus ma
274	28	56.0	478	1	GATA MYCPN	P75534 mycoplasma	347	28	56.0	112	1	VFX SVSP	PI9508 simian immu
275	28	56.0	492	1	CP83 PIG	Q02390 sus scrofa	348	28	56.0	124	1	RNP BALAC	P00673 balantopter
276	28	56.0	494	1	ALG8 PSEAE	Q52463 pseudomonas	349	28	56.0	124	1	MSRB RALSO	Q8xyll ralsconia s
277	28	56.0	500	1	NUAC MAIZE	P11647 zea mays (m	350	28	56.0	134	1	GRP SHEEP	P47851 ovis aries
278	28	56.0	500	1	NUAC NEPOL	Q9tkv8 nephrolelmi	351	28	56.0	138	1	RL16 CHLMU	Q9pjm1 chlamydia m
279	28	56.0	501	1	S3A3 HUMAN	Q12874 homo sapien	352	28	56.0	138	1	RL16 CHLPN	Q9274 chlamydia p
280	28	56.0	501	1	S3A3 MOUSE	Q94554 mus musculu	353	28	56.0	142	1	OC17 CHICK	Q9pr88 gallus gall
281	28	56.0	501	1	VLI PAPVE	P11326 european el	354	28	56.0	147	1	GRP RAT	P24393 rattus norv
282	28	56.0	503	1	IRF7 HUMAN	Q92985 homo sapien	355	28	56.0	148	1	GRP HUMAN	P07492 homo sapien
283	28	56.0	503	1	VLI COBV	Q89828 canine oral	356	28	56.0	152	1	VLI HPV43	P50815 human papil
284	28	56.0	507	1	YCGE ECOLI	Q07861 human papil	357	28	56.0	155	1	GRP BOMOR	P29007 bombina ori
285	28	56.0	510	1	YCGE ECOLI	P29013 escherichia	358	28	56.0	159	1	UL14 PRV3	P30661 pseudorabie
286	28	56.0	511	1	CTAQ THEAQ	P42663 thermus aqu	359	28	56.0	163	1	RM23 YEAST	Q12487 saccharomyc
287	28	56.0	514	1	ABR2 BACOV	Q59219 bacteroides	360	28	56.0	175	1	VS10 ROTH2	P30030 human rotav
288	28	56.0	516	1	YLI7 YEAST	P40492 saccharomyc	361	28	56.0	175	1	VS10 ROTH7	P30031 human rotav
289	28	56.0	521	1	YC90 MYCTU	Q10616 mycobacteri	362	28	56.0	175	1	VS10 ROTH8	P30032 human rotav
290	28	56.0	535	1	YD19 MYCTU	Q10632 mycobacteri	363	28	56.0	175	1	VS10 ROTH8	P04512 simian ii r
291	28	56.0	550	1	SOAI HUMAN	P35610 homo sapien	364	28	56.0	176	1	KEFF SALT1	Q8zrk1 salmonella
292	28	56.0	552	1	ARRA ARATH	Q49397 arabidopsis	365	28	56.0	176	1	KEFF SALT1	Q8zrk1 salmonella
293	28	56.0	555	1	SYK METKA	Q8twp6 methanopyru	366	28	56.0	206	1	KTHY NEIMA	Q9jve7 neisseria m
294	28	56.0	593	1	Y40A RHISN	P55586 rhizobium s	367	28	56.0	206	1	KTHY NEIMA	Q9k0d9 neisseria m
295	28	56.0	610	1	GLMS THIEP	Q54275 t glucosami	368	28	56.0	210	1	GIDB RHIL0	Q98d22 rhizobium l
296	28	56.0	611	1	YF51 SCPOE	O14127 schizosacch	369	28	56.0	221	1	EF1E BOMMO	P29522 bombyx mori
297	28	56.0	628	1	YF11 MOUSE	Q88485 mus musculu	370	28	56.0	231	1	PSAF SPIOL	P12355 spinacia ol
298	28	56.0	630	1	Y4EJ RHISN	P55377 rhizobium s	371	28	56.0	232	1	PSAF FLATR	P46486 flaveria tr
299	28	56.0	643	1	DY11 RAT	Q63100 rattus norv	372	28	56.0	235	1	PSAF HORVU	P13192 hordeum vul
300	28	56.0	645	1	DY11 HUMAN	O14576 homo sapien	373	28	56.0	248	1	RM09 DROME	Q9vf89 drosophila
301	28	56.0	652	1	HS70 ACHKL	P41753 achlya kleb	374	28	56.0	253	1	ADH DROPE	P37473 drosophila
302	28	56.0	663	1	CIRA ECOLI	P17315 escherichia	375	28	56.0	253	1	ADH DROPS	P07158 drosophila
303	28	56.0	663	1	Y4WM RHISN	P55691 rhizobium s	376	28	56.0	254	1	ADH DROMA	P25139 drosophila
304	28	56.0	684	1	LIPE AERRY	P40600 aeromonas h	377	28	56.0	260	1	OX1E MOUSE	P58307 mus musculu
305	28	56.0	705	1	TRFE CHICK	P02789 gallus gall	378	28	56.0	264	1	MM07 MOUSE	Q10738 mus musculu
306	28	56.0	736	1	DVL2 MOUSE	Q60838 mus musculu	379	28	56.0	264	1	OTP DROME	P56672 drosophila
307	28	56.0	752	1	HEPA HSV2H	R89431 herpes simp	380	28	56.0	265	1	FABI PSEAE	Q9zfe4 pseudomonas
308	28	56.0	757	1	DHET GLUOX	O05542 gluconobact	381	28	56.0	267	1	MM07 RAT	P50280 rattus norv
309	28	56.0	760	1	SMAA MOUSE	Q62178 mus musculu	382	28	56.0	268	1	PSB4 DROME	Q9vna5 drosophila
310	28	56.0	779	1	PQPF PSESM	Q88479 pseudomonas	383	28	56.0	288	1	A41 LEIDO	P55905 leishmania
311	28	56.0	795	1	SYFE YERPE	Q8zdx1 yersinia pe	384	28	56.0	344	1	YK83 MYCTU	Q10691 mycobacteri
312	28	56.0	820	1	CHIA ALTOS	P32823 alteromonas	385	28	56.0	322	1	POR FLYN3	O66148 plectonema
313	28	56.0	829	1	CADQ HUMAN	O75309 homo sapien	386	28	56.0	332	1	POR SYN3	Q59987 synochocyst
314	28	56.0	829	1	CADQ RABIT	Q26834 cryptotolagu	387	28	56.0	334	1	ZIPI HUMAN	Q9ny26 homo sapien
315	28	56.0	830	1	CADQ MOUSE	O88138 mus musculu	388	28	56.0	334	1	ZIPI MOUSE	Q9qz03 mus musculu
316	28	56.0	877	1	MGR3 HUMAN	O14832 homo sapien	389	28	56.0	325	1	MOXR HUMAN	Q8td46 homo sapien
317	28	56.0	879	1	MGR3 MOUSE	Q9qy82 mus musculu	390	28	56.0	332	1	PAH5 STRCO	Q9jns2 streptomyce
318	28	56.0	879	1	MGR3 RAT	P31422 rattus norv	391	28	56.0	342	1	YGL1 YEAST	P53219 saccharomyc
319	28	56.0	886	1	SNXE HUMAN	Q9y5w7 homo sapien	392	28	56.0	347	1	OMPA BUCAP	Q8k914 buchneria ap
320	28	56.0	942	1	KDGT HUMAN	P52824 homo sapien	393	28	56.0	349	1	YAHK ECOLI	P75691 escherichia
321	28	56.0	967	1	SVL PYRAB	Q9v0b9 pyrococcus	394	28	56.0	355	1	GLN1 PEA	P08282 pisum sativ
322	28	56.0	967	1	SVL PYRHO	O58698 pyrococcus	395	28	56.0	403	1	SHBG MOUSE	P97497 mus musculu
323	28	56.0	1002	1	TAGA VIBCH	P24019 vibrio chol	396	28	56.0	403	1	SHBG RAT	P08689 rattus norv
324	28	56.0	1015	1	FDNG ECOLI	P24183 escherichia	397	28	56.0	404	1	Y4XM RHISN	P55705 rhizobium s
325	28	56.0	1030	1	Y075 MYCPN	P75556 mycoplasma	398	28	56.0	428	1	GLNC BRANA	Q42664 brassica na

399	27	54.0	430	1	GLN2 ARATH	043127 arabidopsis	472	27	54.0	986	1	CYGR ARBPU	P11528 arbacia pun
400	27	54.0	435	1	EPRA RHOC	P18607 rhodobacter	473	27	54.0	1001	1	TP3A HUMAN	Q13472 homo sapien
401	27	54.0	441	1	ENUL HUMAN	Q96a84 homo sapien	474	27	54.0	1002	1	S123 MOUSE	P59158 mus musculus
402	27	54.0	447	1	TEA2 HUMAN	Q15562 homo sapien	475	27	54.0	1002	1	S123 RAT	P55017 rattus norv
403	27	54.0	467	1	TM11 MOUSE	Q99pq2 mus musculus	476	27	54.0	1003	1	TP3A MOUSE	O70157 mus musculus
404	27	54.0	468	1	TM11 HUMAN	Q96f44 homo sapien	477	27	54.0	1021	1	S123 HUMAN	P55017 homo sapien
405	27	54.0	469	1	DPD2 HUMAN	P49005 homo sapien	478	27	54.0	1024	1	Y075 MYCSE	P47321 mycoplasma
406	27	54.0	474	1	GLGA XANAC	O8pg33 xanthomonas	479	27	54.0	1036	1	OGT1 HUMAN	O15294 homo sapien
407	27	54.0	474	1	GLGA XANCP	O8pd32 xanthomonas	480	27	54.0	1036	1	OGT1 RAT	P55558 rattus norv
408	27	54.0	489	1	GATA GLOVI	Q9kfo0 gloeobacter	481	27	54.0	1164	1	CNA2 HUMAN	Q9H723 homo sapien
409	27	54.0	495	1	VRL1 BPV1	P03103 bovine papi	482	27	54.0	1186	1	CEAA BACTS	Q45710 bacillus th
410	27	54.0	503	1	VRL2 MOUSE	Q8bn21 mus musculus	483	27	54.0	1239	1	CHS5 USTWA	O13394 ustillago m
411	27	54.0	506	1	VLI1 HPV23	P50789 human papil	484	27	54.0	1254	1	POLS EEVVM	P36331 venezuelan
412	27	54.0	508	1	COB1 MYCTU	Q10677 mycobacteri	485	27	54.0	1862	1	ANK1 MOUSE	Q02357 mus musculus
413	27	54.0	509	1	VLI1 HPV49	P36742 human papil	486	27	54.0	1880	1	ANK1 HUMAN	P16157 homo sapien
414	27	54.0	510	1	VLI1 HPV22	P50798 human papil	487	27	54.0	2182	1	CABI RAT	O88480 rattus norv
415	27	54.0	510	1	VLI1 HPV38	P50814 human papil	488	27	54.0	2220	1	CABI HUMAN	Q9Y6j0 homo sapien
416	27	54.0	524	1	K2C4 MOUSE	P07744 mus musculus	489	27	54.0	2471	1	NTC2 RAT	Q9QW30 rattus norv
417	27	54.0	547	1	LY41 SYNY3	P74269 synchocyst	490	27	54.0	2812	1	ZAN HUMAN	Q9Y493 homo sapien
418	27	54.0	548	1	CEAK ECOLI	Q47502 escherichia	491	27	54.0	2944	1	CA17 HUMAN	Q02388 homo sapien
419	27	54.0	551	1	CEA3 ECOLI	P00646 escherichia	492	27	54.0	3565	1	CSM1 HUMAN	Q96p27 homo sapien
420	27	54.0	551	1	CEA6 ECOLI	P17999 escherichia	493	27	54.0	5376	1	ZAN MOUSE	O88799 mus musculus
421	27	54.0	560	1	ERS MOUSE	Q64355 mus musculus	494	26.5	53.0	191	1	YJGE BACSU	O34960 bacillus su
422	27	54.0	561	1	ERS HUMAN	Q43281 homo sapien	495	26.5	53.0	364	1	Y3B8 FSEAE	P33642 pseudomonas
423	27	54.0	567	1	KDGE MOUSE	Q9R1C6 mus musculus	496	26.5	53.0	492	1	PEPD HUMAN	P12955 homo sapien
424	27	54.0	567	1	KDGE HUMAN	P52429 homo sapien	497	26.5	53.0	842	1	BF2 YEAST	P32324 saccharomyc
425	27	54.0	576	1	CEA7 ECOLI	Q47112 escherichia	498	26	52.0	15	1	GLN2 PINPS	P81107 pinus pinas
426	27	54.0	581	1	CEA2 ECOLI	P04419 escherichia	499	26	52.0	23	1	PAP1 HELVI	P30251 heliothis v
427	27	54.0	582	1	CEA9 ECOLI	P09883 escherichia	500	26	52.0	42	1	BAWM LACSK	P80493 lactobacill
428	27	54.0	584	1	NIFA RHLET	P54931 rhizobium e							
429	27	54.0	607	1	DB10 NICSY	P46942 nicotiana s							
430	27	54.0	612	1	LKHA SCHFO	Q94544 schizosacch							
431	27	54.0	628	1	JPL1 HUMAN	Q96j16 homo sapien							
432	27	54.0	628	1	JPL1 MOUSE	Q80wt0 mus musculus							
433	27	54.0	638	1	GHR FIG	P19756 sus scrofa							
434	27	54.0	638	1	GHR RABIT	P19941 cryotolagus							
435	27	54.0	676	1	CIQ1 HUMAN	P51787 homo sapien							
436	27	54.0	689	1	MEA BRATH	O65312 arabidopsis							
437	27	54.0	741	1	LOXB PHAVU	P27481 phaseolus v							
438	27	54.0	754	1	PURL MYCLE	Q50023 mycobacteri							
439	27	54.0	779	1	PHK2 RHIME	Q92za4 rhizobium m							
440	27	54.0	786	1	ST5B HUMAN	P51692 homo sapien							
441	27	54.0	786	1	ST5B MOUSE	P42232 mus musculus							
442	27	54.0	786	1	ST5B RAT	P52632 rattus norv							
443	27	54.0	787	1	ST5B BOVIN	Q9tum3 bos taurus							
444	27	54.0	787	1	ST5B FIG	Q9tuz0 sus scrofa							
445	27	54.0	789	1	PHK1 RHIME	Q92t74 rhizobium m							
446	27	54.0	789	1	PHK BRUSU	Q8fwr0 bruceella su							
447	27	54.0	791	1	PHK CHLTE	Q8kca0 chlorobium							
448	27	54.0	792	1	KFC2 MOUSE	O08672 mus musculus							
449	27	54.0	792	1	PHK BRUME	O8yb18 bruceella me							
450	27	54.0	793	1	PHK2 ANASP	Q8yt26 anabaena sp							
451	27	54.0	793	1	ST5A MOUSE	P42230 mus musculus							
452	27	54.0	793	1	ST5A RAT	Q62771 rattus norv							
453	27	54.0	794	1	ST5A BOVIN	Q95115 bos taurus							
454	27	54.0	794	1	ST5A HUMAN	P42229 homo sapien							
455	27	54.0	799	1	ST5A SHEEP	P42231 ovis aries							
456	27	54.0	799	1	ST5A FIG	Q9tuz1 sus scrofa							
457	27	54.0	801	1	PHK BRAJA	Q99s87 bradyrhizob							
458	27	54.0	807	1	PHK RHILIO	Q988v7 rhizobium l							
459	27	54.0	808	1	PHK1 ANASP	Q9yww1 anabaena sp							
460	27	54.0	812	1	PHK SYNEL	Q8djh6 synchococc							
461	27	54.0	817	1	PHK STRCO	Q8ckj1 streptomyce							
462	27	54.0	821	1	PHK SYNY3	P74690 synchocyst							
463	27	54.0	825	1	XFP BIFAN	O9aen9 bifidobacter							
464	27	54.0	836	1	PAPC ECOLI	P07110 escherichia							
465	27	54.0	853	1	NOG2 RHIME	P56914 rhizobium m							
466	27	54.0	876	1	EPAC MOUSE	Q9vcc8 mus musculus							
467	27	54.0	884	1	EPAC RAT	Q9z1c8 rattus norv							
468	27	54.0	900	1	GUNH CLOTM	P16218 clostridium							
469	27	54.0	904	1	ABRU DROME	Q24174 drosophila							
470	27	54.0	906	1	BPOL BPK11	P18147 bacterioph							
471	27	54.0	968	1	Y682 METIA	Q58095 methanococc							

ALIGNMENTS

RESULT 1
GONI_CLUPEA STANDARD; PRT; 10 AA.

AC P81749;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin I (Gonadotropin-releasing hormone I) (GNRH-I) (LH-RH)
DE (luliberin I).
GN GNRH1.
OS Clupea pallasii (Pacific herring).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Clupeomorpha; Clupeidae;
OC Clupea.
OX NCBI_TaxID=30724;
RN [1]
RP SEQUENCE AND FUNCTION.
RC TISSUE=Brain, and Pituitary;
RX MEDLINE=20114351; PubMed=10650929;
RA Carolsfeld J., Powell J.F.F., Park M., Fischer W.H., Craig A.G.,
Chang J.P., Rivier J.E., Sherwood N.M.;
RT "Primary structure and function of three gonadotropin-releasing
hormones, including a novel form, from an ancient teleost, herring.";
RL Endocrinology 141:505-512(2000).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
DR Interpro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Hormone; Amidation; Hypothalamus; Pyroglutamate; Pyroglutamate carboxylic acid.
FT MOD_RES 10 1 AMIDATION.
FT MOD_RES 10 10 PYROGLUTAMATE CARBOXYLIC ACID.
SQ SEQUENCE 10 AA; 1105 MW; 284B20B72871F5A3 CRC64;

Query Match 84.0%; Score 42; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.018;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
Db 1 QHWSHGLSPG 10

RESULT 2
GONI_ORYLA STANDARD; PRT; 91 AA.

AC Q9DGC8; Q8J1Q7;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Pregonadoliberin I precursor (Medaka-type gonadotropin-releasing hormone) (mdGnRH) [Contains: Gonadoliberin I (LH-RH I), hormone I] (GnRH I) (Luliberin I); GnRH-associated peptide I].
OS Oryzias latipes (Medaka fish) (Japanese ricefish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; OC Acanthomorpha; Acanthopterygii; Percormorpha; Atherinomorpha; OC Belontiiformes; Adrianichthyidae; Oryziinae; Oryzias.
OX NCBI_TaxID=8090;
RN [1]

RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC TISSUE=Brain;
RX MEDLINE=20462954; PubMed=11006121;
RA Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT "A novel form of gonadotropin-releasing hormone in the medaka, Oryzias latipes.";
RL Biochem. Biophys. Res. Commun. 276:298-303(2000).
RN [2]

RP SEQUENCE FROM N.A.
RC STRAIN=HNI, and Himekaka;
RX MEDLINE=2213319; PubMed=12137956;
RA Okubo K., Mitani H., Naruse K., Kondo M., Shima A., Tanaka M., Asakawa S., Shimizu N., Yoshiura Y., Aida K.;
RT "Structural characterization of GnRH loci in the medaka genome.";
RL Gene 293:181-189(2002).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Expressed in the cell bodies of a cluster of neurons in the preoptic region.
CC -!- MISCELLANEOUS: Teleost species possess three paralogous GnRHs: mdGnRH and cGnRH-II have been identified in tetrapods; sgGnRH has no tetrapod ortholog and is thought to be a duplication of cGnRH-II.
CC -!- SIMILARITY: Belongs to the GnRH family.

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EMBL; AB041333; BAB16303.1; -
DR EMBL; AB041336; BAC06419.1; -
DR EMBL; AB074499; BAC06421.1; -
DR PIR; JCT393; JCT393.
DR GO; GO:0005576; C:extracellular; ISS.
DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; ISS.
DR GO; GO:0007275; P:development; ISS.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
FT SIGNAL 1 21 BY SIMILARITY.
FT CHAIN 22 91 PROGONADOLIBERIN I.
FT PEPTIDE 22 31 GONADOLIBERIN I.
FT PEPTIDE 35 91 GNRH-ASSOCIATED PEPTIDE I.

FT MOD_RES 22 22 PYRROLIDONE CARBOXYLIC ACID (BY
FT MOD_RES 31 31 SIMILARITY).
FT MOD_RES 31 31 AMIDATION (G-32 PROVIDE AMIDE GROUP) (BY
FT MOD_RES 31 31 SIMILARITY).
FT CONFLICT 8 8 P -> L (IN REF. 2; BAC06421).
FT CONFLICT 54 54 T -> A (IN REF. 2; BAC06421).
SQ SEQUENCE 91 AA; 10307 MW; A00F2BED6FDE0B5 CRC64;
Query Match 84.0%; Score 42; DB 1; Length 91;
Best Local Similarity 60.0%; Pred. NO. 0.16;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXKXPG 10
Db 22 QHWSHGLSPG 31

RESULT 3
GONI_HAPBU STANDARD; PRT; 94 AA.

AC P31918; O93387;
DT 01-OCT-1996 (Rel. 34, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Pregonadoliberin I precursor [Contains: Gonadoliberin I (Luteinizing hormone releasing hormone I) (Gonadotropin-releasing hormone I) (GnRH-I) (LH-RH I) (Luliberin I); GnRH-associated peptide I].
DE GNRH1.
OS Haplochromis burtoni (Burton's mouthbrooder).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; OC Acanthomorpha; Acanthopterygii; Percormorpha; Perciformes; Labroidae; OC Cichlidae; Astatotilapia.
OX NCBI_TaxID=8153;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95396797; PubMed=7667296;
RA White S.A., Kaaten T.L., Bond C.T., Adelman J.P., Fernald R.D.;
RT "Three gonadotropin-releasing hormone genes in one organism suggest novel roles for an ancient peptide.";
RL Proc. Natl. Acad. Sci. U.S.A. 92:8363-8367(1995).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=99061842; PubMed=9843638;
RA White R.B., Fernald R.D.;
RT "Ontogeny of gonadotropin-releasing hormone (GnRH) gene expression reveals a distinct origin for GnRH-containing neurons in the midbrain.";
RL Gen. Comp. Endocrinol. 112:322-329(1998).
RN [3]
RP SEQUENCE OF 23-32, AND MASS SPECTROMETRY.
RC TISSUE=Pituitary;
RX MEDLINE=95372591; PubMed=7644702;
RA Powell J.F.F., Fischer W.H., Park M., Craig A.G., Rivier J.E., White S.A., Francis R.C., Fernald R.D., Licht P., Warby C., Sherwood N.M.;
RT "Primary structure of solitary form of gonadotropin-releasing hormone (GnRH) in cichlid pituitary; three forms of GnRH in brain of cichlid fish and pumpkinseed fish.";
RL Regul. Pept. 57:43-53(1995).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS. MAY BE RESPONSIBLE FOR THE REGULATION OF THE HYPOTHALAMIC-PITUITARY-GONADAL AXIS.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: SYNTHESIZED IN PREOPTIC NEURONS AND IS TRANSPORTED TO THE PITUITARY IN THE PREOPTIC-HYPOTHALAMIC AXONS.
CC -!- MASS SPECTROMETRY: MW=1113.9; METHOD=WALDI; RANGE=23-32.
CC -!- SIMILARITY: Belongs to the GnRH family.
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DR ENBL; U31865; AAC59691.1; --
DR ENBL; AF076961; AAC27716.1; --
DR PIR; I50739; I50739.
DR GO; GO:0005576; C:extracellular; NAS.
DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; NAS.
DR GO; GO:0007275; P:development; IDA.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; Gonadolibnerin.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBNERI.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Multigene family; Pyrrolidone carboxylic acid.
FT SIGNAL 1 22 PROGNADOLIBNERIN I.
FT CHAIN 23 94 GONADOLIBNERIN I.
FT PEPTIDE 23 32 GnRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT MOD_RES 23 23 PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 32 32 AMIDATION (G-33 PROVIDE AMIDE GROUP).
FT CONFLICT 86 94 ENGRWPKK -> KMDTGRNERFL (IN REF. 1).
SQ SEQUENCE 94 AA; 10382 MW; E57DBA8333278D7 CRC64;

Query Match 84.0%; Score 42; DB 1; Length 94;
Best Local Similarity 60.0%; Pred. No. 0.17;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 EHWXGXKXP 10
:|||||
Db 23 QHWSYGLSPG 32

RESULT 4

GONI_MORSA
ID GONI_MORSA STANDARD; PRT; 95 AA.
AC O73812;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadolibnerin I precursor (Gonadotropin-releasing hormone I) (GnRH-I)
DE (LH-RH I) (Luliberin I).
GN GNRH1.
OS Morone saxatilis (Striped bass).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Perciformes; Percoidae;
OC Moronidae; Morone.
OX NCBI_TaxID=34816;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=99061809; PubMed=9845669;
RA Chow M.M., Kight K.E., Gorhlf Y., Alok D., Stubblefield J., Zohar Y.;
RT "Multiple GnRHs present in a teleost species are encoded by separate
RT genes: analysis of the sbnRH and csnRH-II genes from the striped
RT bass, Morone saxatilis.";
RL J. Mol. Endocrinol. 21:277-289(1998).
CC -1- FUNCTION: Stimulates the secretion of gonadotropins (By
CC similarity).

CC -1- SUBCELLULAR LOCATION: Secreted.

CC -1- SIMILARITY: Belongs to the GnRH family.

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CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
CC or send an email to license@isb-sib.ch).

DR ENBL; AF056314; AAD03817.1; --

DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; Gonadolibnerin.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBNERI.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Multigene family; Pyrrolidone carboxylic acid.
FT SIGNAL 1 22 POTENTIAL.
FT CHAIN 23 95 PROGNADOLIBNERIN I.
FT PEPTIDE 23 32 GONADOLIBNERIN I.
FT MOD_RES 23 23 GnRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT MOD_RES 23 23 PYRROLIDONE CARBOXYLIC ACID (BY
FT SIMILARITY).
FT MOD_RES 32 32 AMIDATION (G-33 PROVIDE AMIDE GROUP)
FT (BY SIMILARITY).
SQ SEQUENCE 95 AA; 10411 MW; 980C6988FC279BFC CRC64;

Query Match 84.0%; Score 42; DB 1; Length 95;
Best Local Similarity 60.0%; Pred. No. 0.17;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 EHWXGXKXP 10
:|||||
Db 23 QHWSYGLSPG 32

RESULT 5

GONI_PAGMA
ID GONI_PAGMA STANDARD; PRT; 95 AA.
AC P70074;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadolibnerin I precursor (Gonadotropin-releasing hormone I) (GnRH-I)
DE (LH-RH I) (Luliberin I).
GN GNRH1.
OS Pagrus major (Red sea bream) (Chrysophrys major).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Perciformes; Percoidae;
OC Sparidae; Pagrus.
OX NCBI_TaxID=143350;
RN [1]
RP SEQUENCE FROM N.A.
RX Okuzawa K., Granneman J., Bogerd J., Goos H., Zohar Y., Kagawa H.;
RL Submitted (SEP-1996) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Stimulates the secretion of gonadotropins (By
CC similarity).

CC -1- SUBCELLULAR LOCATION: Secreted.

CC -1- SIMILARITY: Belongs to the GnRH family.

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DR ENBL; D86582; BAA13129.1; --

DR InterPro; IPR002012; GnRH.

DR InterPro; IPR004079; Gonadolibnerin.

DR Pfam; PF00446; GnRH; 1.

DR PRINTS; PR01541; GONADOLIBNERI.

DR PROSITE; PS00473; GnRH; 1.

KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Multigene family; Pyrrolidone carboxylic acid.

FT SIGNAL 1 23 POTENTIAL.

FT CHAIN 24 95 PROGNADOLIBNERIN I.

FT PEPTIDE 24 33 GONADOLIBNERIN I.

FT PEPTIDE 37 95 GnRH-ASSOCIATED PEPTIDE I (POTENTIAL).

FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID (BY

```

FT  MOD_RES      33      33      SIMILARITY).
FT  AMIDATION (G-34 PROVIDE AMIDE GROUP)
FT  (BY SIMILARITY).
SQ  SEQUENCE      95 AA; 10566 MW; 61E79C990328D73E CRC64;

Query Match      84.0%; Score 42; DB 1; Length 95;
Best Local Similarity 60.0%; Pred. No. 0.17;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy  1 EHWXGXKPG 10
Db  24 QHWSYGLSPG 33

RESULT 6
GONI_SPAAU
ID  GONI_SPAAU STANDARD; PRT; 95 AA.
AC  P51979;
DT  01-OCT-1996 (Rel. 34, Created)
DT  01-OCT-1996 (Rel. 34, Last sequence update)
DT  28-FEB-2003 (Rel. 41, Last annotation update)
DE  Gonadoliberein I precursor (Gonadotropin-releasing hormone I) (GNRH-I)
DE  (LH-RH I) (Luliberin I) (SBNRH).
GN  GNRH1.
OS  Sparus aurata (Gilthead sea bream).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC  Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
OC  Sparidae; Sparus.
OX  NCBI_TaxID=8175;
RN  [1]
RP  SEQUENCE FROM N.A.
RC  TISSUE=Brain;
RX  MEDLINE=95268499; PubMed=7749463;
RA  Gotthelf Y., Elizar A., Chow M., Chen T.T., Zohar Y.;
RT  "Molecular cloning and characterization of a novel gonadotropin-
RT  releasing hormone from the gilthead seabream (Sparus aurata).";
RL  Mol. Mar. Biol. Biotechnol. 4:27-35(1995).
RN  [2]
RP  SEQUENCE OF 26-35.
RC  TISSUE=Brain;
RX  MEDLINE=95083645; PubMed=7991588;
RA  Powell J.F.F., Zohar Y., Elizar A., Park M., Fischer W.H.,
RA  Craig A.G., Rivier J.E., Lovejoy D.A., Sherwood N.M.;
RT  "Three forms of gonadotropin-releasing hormone characterized from
RT  brains of one species.";
RL  Proc. Natl. Acad. Sci. U.S.A. 91:12081-12085(1994).
CC  -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC  -!- SUBCELLULAR LOCATION: Secreted.
CC  -!- MASS SPECTROMETRY: MW=1113.6; METHOD=WALDI; RANGE=26-35.
CC  -!- SIMILARITY: Belongs to the GNRH family.
CC  -----
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CC  -----
CC  EMBL; U30320; AAA7549.1; -
CC  InterPro; IPR002012; GNRH.
CC  InterPro; IPR004079; Gonadoliberein1.
CC  Pfam; PF00446; GNRH; 1.
CC  PRINTS; PR01541; GONADOLIBRN1.
CC  PROSITE; PS00473; GNRH; 1.
CC  Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
CC  Signal; Multigene family; Pyrrolidone carboxylic acid.
CC  -----
CC  EMBL; U30320; AAA7549.1; -
CC  InterPro; IPR002012; GNRH.
CC  InterPro; IPR004079; Gonadoliberein1.
CC  Pfam; PF00446; GNRH; 1.
CC  PRINTS; PR01541; GONADOLIBRN1.
CC  PROSITE; PS00473; GNRH; 1.
CC  Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
CC  Signal; Multigene family; Pyrrolidone carboxylic acid.
CC  -----
FT  CHAIN      1 25      PROGONADOLIBERIN I.
FT  PEPTIDE     26 35      GONADOLIBERIN I.
FT  PEPTIDE     26 35      GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT  MOD_RES     39 95      GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT  MOD_RES     26 26      PYRROLIDONE CARBOXYLIC ACID.

Query Match      84.0%; Score 42; DB 1; Length 99;
Best Local Similarity 60.0%; Pred. No. 0.18;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy  1 EHWXGXKPG 10
Db  26 QHWSYGLSPG 35

RESULT 7
GONI_DICLA
ID  GONI_DICLA STANDARD; PRT; 99 AA.
AC  Q91A10;
DT  16-OCT-2001 (Rel. 40, Created)
DT  16-OCT-2001 (Rel. 40, Last sequence update)
DT  28-FEB-2003 (Rel. 41, Last annotation update)
DE  Gonadoliberein I precursor (Gonadotropin-releasing hormone I) (GNRH-I)
DE  (LH-RH I) (Luliberin I).
GN  GNRH1.
OS  Dicotylarchus labrax (European sea bass).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC  Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
OC  Moronidae; Dicotylarchus.
OX  NCBI_TaxID=13489;
RN  [1]
RP  SEQUENCE FROM N.A.
RC  TISSUE=Brain;
RX  MEDLINE=20540016; PubMed=11086295;
RA  Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I., Zanuy S.,
RA  Zohar Y., Elizar A., Munoz-Cueto J.A., Kan O.;
RT  "Differential expression of three different prepro-GNRH
RT  (gonadotropin-releasing hormone) messengers in the brain of the
RT  european sea bass (Dicentrarchus labrax).";
RL  J. Comp. Neurol. 429:144-155(2001).
CC  -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC  -!- SUBCELLULAR LOCATION: Secreted.
CC  -!- SIMILARITY: Belongs to the GNRH family.
CC  -----
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CC  -----
CC  EMBL; AF224279; AAF62898.1; -
CC  InterPro; IPR002012; GNRH.
CC  InterPro; IPR004079; Gonadoliberein1.
CC  Pfam; PF00446; GNRH; 1.
CC  PRINTS; PR01541; GONADOLIBRN1.
CC  PROSITE; PS00473; GNRH; 1.
CC  Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
CC  Signal; Multigene family; Pyrrolidone carboxylic acid.
CC  -----
FT  CHAIN      1 26      PROGONADOLIBERIN I.
FT  PEPTIDE     27 36      GONADOLIBERIN I.
FT  PEPTIDE     27 36      GNRH-ASSOCIATED PEPTIDE I (POTENTIAL).
FT  MOD_RES     27 99      PYRROLIDONE CARBOXYLIC ACID (BY
FT  MOD_RES     27 99      SIMILARITY).
FT  MOD_RES     36 36      AMIDATION (G-37 PROVIDE AMIDE GROUP)
FT  MOD_RES     36 36      (BY SIMILARITY).
FT  SEQUENCE    99 AA; 10758 MW; EC8AEEC3CC02904 CRC64;

Query Match      84.0%; Score 42; DB 1; Length 99;
Best Local Similarity 60.0%; Pred. No. 0.18;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy  1 EHWXGXKPG 10

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Fellows R., Blackwell R., Vale W., Guillemin R.;
 "Primary structure of the ovine hypothalamic luteinizing hormone-releasing factor (LRF) (LH-hypothalamic-LRF-gas chromatography-mass spectrometry-decapeptide-Edman degradation).";
 Proc. Natl. Acad. Sci. U.S.A. 69:278-282(1972).
 !- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates the secretion of both luteinizing and follicle-stimulating hormones.
 !- SUBCELLULAR LOCATION: Secreted.
 !- SIMILARITY: Belongs to the GnRH family.

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 EMBL; U02517; AAA03433.1; -.
 InterPro; IPR002012; GnRH.
 InterPro; IPR004079; Gonadoliberin1.
 Pfam; PF00446; GnRH; 1.
 PROSITE; PRO1541; GONADOLIBERN1.
 PROSITE; PS00473; GnRH; 1.
 Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus; Placenta; Pyrrolidone carboxylic acid.
 NON_TER 1 1
 FT CHAIN 1 -61
 FT PEPTIDE 1 10
 FT PEPTIDE 14 -61
 FT ACT_SITE 3 3
 MOD_RES 1 1
 MOD_RES 10 10
 MOD_RES 61 61
 NON_TER 61 AA; 6828 MW; 63962AAAE3198F0 CEC64;
 SEQUENCE 61 AA; 6828 MW; 63962AAAE3198F0 CEC64;
 PROGONADOLIBERIN I.
 GONADOLIBERIN I.
 GnRH-ASSOCIATED PEPTIDE I.
 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL ACTIVITY.
 PYRROLIDONE CARBOXYLIC ACID.
 AMIDATION (G-11 PROVIDE AMIDE GROUP).
 Query Match 82.0%; Score 41; DB 1; Length 61;
 Best Local Similarity 60.0%; Pred. No. 0.17;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKPG 10
 : : : : :
 DB 1 QHWSVLRLPG 10
 : : : : :
 RESULT 10
 GON1_MESAU
 ID _GON1_MESAU STANDARD; PRT; 63 AA.
 AC Q09163;
 DT 15-DEC-1998 (Rel. 37, Created)
 DT 15-DEC-1998 (Rel. 37, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Progonaoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
 DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing hormone I) (GnRH I) (luliberin I); GnRH-associated peptide I] (Fragment).
 DE GNRI OR GNRI OR LHRH.
 OS Mesocricetus auratus (Golden hamster).
 CC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 CC Mesocricetus.
 CC NCBI_TaxID=10036;
 RN [1]
 RS SEQUENCE FROM N.A.
 RA Jansen H.T., Stevens P.J., Zeitler P., Lehman M.N.;
 RL Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
 CC !- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates the secretion of both luteinizing and follicle-stimulating hormones.
 CC !- SUBCELLULAR LOCATION: Secreted.
 CC !- SIMILARITY: Belongs to the GnRH family.

[illegible]

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CC -----
CC EMBL; U91938; AAB51302.1; -.
CC InterPro; IPR002012; GnRH.
CC Pfam; PF00446; GnRH; 1.
CC PRINTS; PR01541; GONADOLIBERN.
CC PROSITE; PS00473; GnRH; 1.
CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
CC Placenta; Pyroglutamate carboxylic acid.
CC NON_TER 1 1
CC CHAIN 1 >63 PROGONADOLIBERIN I.
CC PEPTIDE 1 10 GONADOLIBERIN I.
CC PEPTIDE 14 >63 GNRH-ASSOCIATED PEPTIDE I (BY
CC ACT_SITE 3 3 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
CC MOD_RES 1 1 ACTIVITY (BY SIMILARITY).
CC MOD_RES 10 10 PYRROLIDONE CARBOXYLIC ACID (BY
CC NON_TER 63 63 AMIDATION (G-11 PROVIDE AMIDE GROUP) (BY
CC SEQUENCE 63 AA; 7370 MW; FC94995676F77180 CRC64;
CC Query Match 82.0%; Score 41; DB 1; Length 63;
CC Best Local Similarity 60.0%; Pred. No. 0.18;
CC Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
CC QY 1 EHWXGXKPG 10
CC DB 1 QHWSYGLRPG 10
CC -----
CC RESULT 11
CC GONI_MACMU STANDARD; PRT; 67 AA.
CC AC P55247;
CC DT 01-OCT-1996 (Rel. 34, Created)
CC DT 01-OCT-1996 (Rel. 34, Last sequence update)
CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
CC DE Progadoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
CC DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
CC DE hormone I) (GnRH I) (luliberin I); GnRH-associated peptide I]
CC DE (Fragment).
CC GN GNRH1 OR GNRH OR LH-RH.
CC OS Macaca mulatta (Rhesus macaque).
CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
CC OC Cercopithecoidea; Macaca.
CC OX NCBI_TaxID=9544;
CC RN [1]
CC RP SEQUENCE FROM N.A.
CC RC TISSUE=Hypothalamus;
CC RX MEDLINE=95124501; PubMed=7545971;
CC RA Ma Y.J., Costa M.E., Ojeda S.R.;
CC RT "Developmental expression of the genes encoding transforming growth
CC RT factor alpha and its receptor in the hypothalamus of female rhesus
CC RT macaques."
CC RL Neuroendocrinology 60:346-359(1994).
CC CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC CC the secretion of both luteinizing and follicle-stimulating
CC CC hormones.
CC CC -!- SUBCELLULAR LOCATION: Secreted.
CC CC -!- SIMILARITY: Belongs to the GnRH family.
CC -----
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CC -----
CC EMBL; S75918; AAB33096.1; -.
CC FIC; I78541; I78541.
CC InterPro; IPR002012; GnRH.
CC Pfam; PF00446; GnRH; 1.
CC PRINTS; PR01541; GONADOLIBERN.
CC PROSITE; PS00473; GnRH; 1.
CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
CC Signal; Pyroglutamate carboxylic acid.
CC NON_TER 1 1
CC CHAIN 1 >67 PROGONADOLIBERIN I.
CC PEPTIDE 6 15 GONADOLIBERIN I.
CC PEPTIDE 19 >67 GNRH-ASSOCIATED PEPTIDE I.
CC ACT_SITE 8 8 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL
CC MOD_RES 6 6 ACTIVITY (BY SIMILARITY).
CC MOD_RES 15 15 PYRROLIDONE CARBOXYLIC ACID (BY
CC NON_TER 67 67 AMIDATION (G-16 PROVIDE AMIDE GROUP) (BY
CC SEQUENCE 67 AA; 7573 MW; 505394DA261A3F2 CRC64;
CC Query Match 82.0%; Score 41; DB 1; Length 67;
CC Best Local Similarity 60.0%; Pred. No. 0.19;
CC Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
CC QY 1 EHWXGXKPG 10
CC DB 6 QHWSYGLRPG 15
CC -----
CC RESULT 12
CC GONI_CLAGA STANDARD; PRT; 80 AA.
CC AC P33439;
CC DT 01-FEB-1994 (Rel. 28, Created)
CC DT 01-NOV-1995 (Rel. 32, Last sequence update)
CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
CC DE Progadoliberin I precursor (Gonadotropin-releasing hormone I) (GnRH-I)
CC DE (LH-RH) (luliberin I).
CC OS Clarias gariepinus (Sharptooth catfish) (African catfish).
CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC OC Actinopterygii; Neopterygii; Teleostei; Osteichthyes; Siluriformes;
CC OC Clariidae; Clarias.
CC OX NCBI_TaxID=13013;
CC RN [1]
CC RP SEQUENCE FROM N.A.
CC RC TISSUE=Brain;
CC RX MEDLINE=94291651; PubMed=8020492;
CC RA Bogerd J., Zandbergen T., Andersson E., Goos H.;
CC RT "Isolation, characterization and expression of cDNAs encoding the
CC RT catfish-type and chicken-II-type gonadotropin-releasing-hormone
CC RT precursors in the African catfish."
CC RL Eur. J. Biochem. 222:541-549(1994).
CC RN [2]
CC RP SEQUENCE OF 25-31.
CC RC TISSUE=Brain;
CC RX MEDLINE=92392313; PubMed=1520292;
CC RA Bogerd J., Li K.W., Janssen-Dommerholt C., Goos H.;
CC RT "Two gonadotropin-releasing hormones from African catfish (Clarias
CC RT gariepinus)."
CC RL Biochem. Biophys. Res. Commun. 187:127-134(1992).
CC CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC CC -!- SUBCELLULAR LOCATION: Secreted.
CC CC -!- SIMILARITY: Belongs to the GnRH family.

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 CC -----
 CC EMBL; X78048; CAA54970.1; -;
 CC EMBL; X78049; CAA54971.1; -;
 CC PIR; S45602; RHID.S.
 CC InterPro; IPR002012; GNRH.
 CC Pfam; PF00446; GNRH; 1.
 CC PROSITE; PS00473; GNRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Signal; Pyroglutamate carboxylic acid.
 CC -----
 CC FT SIGNAL 1 21
 CC FT CHAIN 22 80 PROGNADOLIBERIN I.
 CC FT PEPTIDE 22 31 GONADOLIBERIN I.
 CC FT PEPTIDE 35 80 GNRH-ASSOCIATED PEPTIDE I.
 CC FT MOD_RES 22 22 PYROLIDONE CARBOXYLIC ACID.
 CC FT MOD_RES 31 31 AMIDATION (G-32 PROVIDE AMIDE GROUP).
 CC FT VARIANT 47 47 S -> R.
 CC FT VARIANT 60 60 G -> R.
 CC FT VARIANT 80 80 OBE5EE0F4FF661A CRC64;
 CC SQ SEQUENCE 80 AA; 8893 MW; 0B5EE0F4FF661A CRC64;
 CC -----
 CC Query Match 82.0%; Score 41; DB 1; Length 80;
 CC Best Local Similarity 60.0%; Pred. No. 0.22;
 CC Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 CC -----
 CC QY 1 EHWXGXKXPG 10
 CC :||| |
 CC DB 22 QHWSHGLNPG 31
 CC -----
 CC RESULT 13
 CC GONI_XENLA
 CC ID GONI_XENLA STANDARD; PRT; 89 AA.
 CC AC P45656;
 CC DT 01-NOV-1995 (Rel. 32, Created)
 CC DT 01-NOV-1995 (Rel. 32, Last sequence update)
 CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
 CC DE Gonadoliberin I precursor (Gonadotropin-releasing hormone I) (GNRH-I)
 CC (LH-RH) (Luliberin I).
 CC OS Xenopus laevis (African clawed frog).
 CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
 CC OC Xenopodinae; Xenopus.
 CC OX NCBI_TaxID=8355;
 CC RN [1]
 CC RP SEQUENCE FROM N.A.
 CC RC TISSUE=Forebrain;
 CC RX MEDLINE=94185563; PubMed=8137750;
 CC RA Hayes W.P., Wray S., Battey J.F.;
 CC RT "The frog gonadotropin-releasing hormone-I (GNRH-I) gene has a
 CC mammalian-like expression pattern and conserved domains in
 CC GNRH-associated peptide, but brain onset is delayed until
 CC metamorphosis".
 CC RT Endocrinology 134:1835-1844(1994).
 CC CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC CC -!- SUBCELLULAR LOCATION: Secreted.
 CC CC -!- SIMILARITY: Belongs to the GNRH family.
 CC -----
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 CC -----
 CC EMBL; L28040; AAA49728.1; -;

DR PIR; I51423; I51423.
 DR InterPro; IPR002012; GNRH.
 DR InterPro; IPR004079; Gonadoliberin I.
 DR Pfam; PF00446; GNRH; 1.
 DR PRINTS; PRO1541; GONADOLIBERNI.
 DR PROSITE; PS00473; GNRH; 1.
 DR Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 DR Signal; Pyroglutamate carboxylic acid.
 DR -----
 DR FT SIGNAL 1 23
 DR FT CHAIN 24 89
 DR FT PEPTIDE 24 89 GONADOLIBERIN I.
 DR FT PEPTIDE 37 89 GONADOTROPIN-RELEASING HORMONE ASSOCIATED
 DR FT PEPTIDE 37 89 PEPTIDE.
 DR FT MOD_RES 24 24 PYROLIDONE CARBOXYLIC ACID.
 DR FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
 DR FT SEQUENCE 89 AA; 10246 MW; 6F4F36FBAE0D4284 CRC64;
 DR SQ SEQUENCE 89 AA; 10246 MW; 6F4F36FBAE0D4284 CRC64;
 DR -----
 DR Query Match 82.0%; Score 41; DB 1; Length 89;
 DR Best Local Similarity 60.0%; Pred. No. 0.25;
 DR Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 DR -----
 DR QY 1 EHWXGXKXPG 10
 DR :||| |
 DR DB 24 QHWSHGLNPG 33
 DR -----
 DR RESULT 14
 DR GONI_MOUSE
 DR ID GONI_MOUSE STANDARD; PRT; 90 AA.
 DR AC P13562;
 DR DT 01-JAN-1990 (Rel. 13, Created)
 DR DT 01-JAN-1990 (Rel. 13, Last sequence update)
 DR DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DR DE Gonadoliberin I precursor (Contains: Gonadoliberin I (LH-RH I)
 DR (Luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
 DR hormone I) (GNRH I) (Luliberin I); Prolactin release-inhibiting factor
 DR I).
 DR GN GNRH1 OR GNRH.
 CC Mus musculus (Mouse).
 CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 CC OX NCBI_TaxID=10090;
 CC RN [1]
 CC RP SEQUENCE FROM N.A.
 CC RX MEDLINE=87069928; PubMed=3024317;
 CC RA Mason A.J., Hayflick J.S., Zoeller R.T., Young W.S. III,
 CC RA Phillips H.S., Nikolics K., Seeburg P.H.;
 CC RT "A deletion truncating the gonadotropin-releasing hormone gene is
 CC responsible for hypogonadism in the hpg mouse.";
 CC Science 234:1366-1371(1986).
 CC RL -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones.
 CC CC -!- SUBCELLULAR LOCATION: Secreted.
 CC CC -!- SIMILARITY: Belongs to the GNRH family.
 CC -----
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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL; M14872; AAA37717.1; -;
 CC PIR; A47578; REMSG.
 CC MGD; MGI:95789; Gnrh.
 CC InterPro; IPR002012; GNRH.
 CC InterPro; IPR004079; Gonadoliberin I.
 CC Pfam; PF00446; GNRH; 1.
 CC PRINTS; PRO1541; GONADOLIBERNI.
 CC PROSITE; PS00473; GNRH; 1.

KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Placenta; Signal; Pyroglutamate carboxylic acid.
 FT SIGNAL 1 21
 FT CHAIN 22 30 PROGNADOLIBERIN I.
 FT PEPTIDE 22 31 GONADOLIBERIN I.
 FT PEPTIDE 35 90 PROLACTIN RELEASE-INHIBITING FACTOR I.
 FT ACT_SITE 24 24 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL ACTIVITY.
 FT MOD_RES 22 22 PYROGLUTAMATE CARBOXYLIC ACID.
 FT MOD_RES 31 31 AMIDATION (G-32 PROVIDE AMIDE GROUP).
 SQ SEQUENCE 90 AA; 10337 MW; 1C0766FA482624D9 CRC64;
 Query Match 82.0%; Score 41; DB 1; Length 90;
 Best Local Similarity 60.0%; Pred. No. 0.25; Indels 0; Gaps 0;
 Matches 6; Conservative 1; Mismatches 3;
 QY 1 EHWXGXPG 10
 :|||:
 Db 22 QHWSYGLRPG 31
 RESULT 15
 GONI_RANCA STANDARD; PRT; 90 AA.
 ID GONI_RANCA AC Q90Y63;
 DT 10-OCT-2003 (Rel. 42, Created)
 DT 10-OCT-2003 (Rel. 42, Last sequence update)
 DE Prognadoliberin I precursor [Contains: Gonadoliberin I (LHRH I)
 DE (Luteinizing hormone releasing hormone I) (Gonadotropin releasing
 DE hormone I) (GHRH I) (Luliberin I); GnRH-associated peptide I (GAP1)].
 GN GNRH1 OR GNRH.
 OS Rana catesbeiana (Bull frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Neobatrachia; Ranoidae; Rana.
 OX NCBI_TaxID=8400;
 RN [1]
 RP SEQUENCE FROM N.A., TISSUE SPECIFICITY, AND DEVELOPMENTAL STAGE.
 RC TISSUE=Forebrain;
 RX MEDLINE=21102951; PubMed=11170016;
 RA Wang L., Yoo M.S., Kang H.M., Im W.B., Choi H.S., Bogerd J.,
 RA Kwon H.B.;
 RT "Cloning and characterization of cDNAs encoding the GNRH1 and GNRH2
 RT precursors from bullfrog (Rana catesbeiana).";
 RL J. Exp. Zool. 289:190-201(2001).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
 CC similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Forebrain.
 CC -!- DEVELOPMENTAL STAGE: Expressed at significantly higher levels
 CC during post-breding. Not expressed in pituitary.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC or send an email to license@isb-sib.ch).
 CC
 CC EMBL; AF188754; AAL05972.1;
 CC GO; GO:0005576; C:extracellular; NAS.
 CC GO; GO:0005183; P:luteinizing hormone-releasing factor activity; NAS.
 CC GO; GO:0009755; P:hormone mediated signaling; NAS.
 CC GO; GO:0000003; P:reproduction; NAS.
 CC InterPro; IPR002012; GnRH.
 CC InterPro; IPR004079; GonadoliberinI.
 CC Pfam; PF00446; GnRH; 1.
 CC PRINTS; PR01541; GONADOLIBERIN.
 CC PROSITE; PS00473; GNRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 KW Pyroglutamate carboxylic acid.

FT SIGNAL 1 24 POTENTIAL.
 FT CHAIN 25 90 PROGNADOLIBERIN I.
 FT PEPTIDE 25 34 GONADOLIBERIN I.
 FT PEPTIDE 38 86 GNRH-ASSOCIATED PEPTIDE I (BY
 FT SIMILARITY).
 FT MOD_RES 25 25 PYROGLUTAMATE CARBOXYLIC ACID (BY
 FT SIMILARITY).
 FT MOD_RES 34 34 AMIDATION (G-35 PROVIDE AMIDE GROUP) (BY
 FT SIMILARITY).
 SQ SEQUENCE 90 AA; 10291 MW; 317203B4E3DA2FE7 CRC64;
 Query Match 82.0%; Score 41; DB 1; Length 90;
 Best Local Similarity 60.0%; Pred. No. 0.25; Indels 0; Gaps 0;
 Matches 6; Conservative 1; Mismatches 3;
 QY 1 EHWXGXPG 10
 :|||:
 Db 25 QHWSYGLRPG 34
 RESULT 16
 GONI_PIG STANDARD; PRT; 91 AA.
 ID GONI_PIG AC P4921;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 10-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Prognadoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
 DE (Luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
 DE hormone I) (GHRH I) (Luliberin I); GnRH-associated peptide I].
 GN GNRH1 OR GNRH.
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 OX NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Hypothalamus;
 RA Weesner G.D., Matteri R.L., Becker B.A.;
 RL Submitted (MAY-1994) to the EMBL/GenBank/DBJ databases.
 RN [2]
 RP SEQUENCE OF 24-33.
 RX MEDLINE=72114303; PubMed=4946067;
 RA Baba Y., Matsuo H., Schally A.V.;
 RA "Structure of the porcine LH- and FSH-releasing hormone. II.
 RT Confirmation of the proposed structure by conventional sequential
 RT analyses.";
 RL Biochem. Biophys. Res. Commun. 44:459-463(1971).
 RN [3]
 RP SYNTHESIS OF GONADOLIBERIN.
 RX MEDLINE=72065376; PubMed=4942726;
 RA Matsuo H., Arimura A., Nair R.M.G., Schally A.V.;
 RT "Synthesis of the porcine LH- and FSH-releasing hormone by the solid-
 RT phase method.";
 RL Biochem. Biophys. Res. Commun. 45:822-827(1971).
 RN [4]
 RP SYNTHESIS OF GONADOLIBERIN.
 RX MEDLINE=72117544; PubMed=4946275;
 RA Baba Y., Arimura A., Schally A.V.;
 RT "On the tryptophan residue in porcine LH and FSH-releasing hormone.";
 RL Biochem. Biophys. Res. Commun. 45:483-487(1971).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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CC -----
DR EMBL; L32864; AAA31066.1; -.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; Gonadolibertini.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBERNI.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
  Placenta; Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 91
FT PEPTIDE 24 33
FT ACT_SITE 26 26
FT MOD_RES 24 24
FT MOD_RES 33 33
SQ SEQUENCE 91 AA; 10090 MW; 8340474F32DDAA99 CRC64;

  Query Match 82.0%; Score 41; DB 1; Length 91;
  Best Local Similarity 60.0%; Pred. No. 0.26;
  Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXXP 10
Db 24 QHWSYGLRPG 33

RESULT 17
GONI_CHICK STANDARD; PRT; 92 AA.
ID GONI_CHICK
AC P37042; P20407;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-JUN-1994 (Rel. 29, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Progonadolibertin I precursor [Contains: Gonadolibertin I (LH-RH I)
  (Luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
  hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I].
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=White leghorn;
RX MEDLINE=94059355; PubMed=7902095;
RA Dunn I.C., Chen Y., Hook C., Sharp P.J., Sang H.M.;
RT "Characterization of the chicken pregonadotropin-releasing
  hormone-I gene.";
RL J. Mol. Endocrinol. 11:19-29(1993).
RN [2]
RP SEQUENCE OF 24-33.
RC TISSUE=Hypothalamus;
RX MEDLINE=82265778; PubMed=7050119;
RA King J.A., Millar R.P.;
RT "Structure of chicken hypothalamic luteinizing hormone-releasing
  hormone. II. Isolation and characterization.";
RL J. Biol. Chem. 257:10729-10732(1982).
RN [3]
RP SEQUENCE OF 24-33.
RC TISSUE=Hypothalamus;
RX MEDLINE=82265777; PubMed=7050118;
RA King J.A., Millar R.P.;
RT "Structure of chicken hypothalamic luteinizing hormone-releasing
  hormone. I. Structural determination on partially purified
  material.";
RT

J. Biol. Chem. 257:10722-10728(1982).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC -----
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CC -----
DR EMBL; X69491; CAA9246.1; -.
DR PIR; I50644; I50644.
DR GO; GO:0005576; C:extracellular; IDA.
DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; IDA.
DR GO; GO:0007275; P:development; IDA.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; Gonadolibertini.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBERNI.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
  Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 92
FT PEPTIDE 24 33
FT PEPTIDE 37 92
FT MOD_RES 24 24
FT MOD_RES 33 33
SQ SEQUENCE 92 AA; 10206 MW; 61AEB7EBAF508B6A CRC64;

  Query Match 82.0%; Score 41; DB 1; Length 92;
  Best Local Similarity 60.0%; Pred. No. 0.26;
  Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXXP 10
Db 24 QHWSYGLRPG 33

RESULT 18
GONI_HUMAN STANDARD; PRT; 92 AA.
ID GONI_HUMAN
AC P01148;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-APR-1988 (Rel. 07, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Progonadolibertin I precursor [Contains: Gonadolibertin I (LH-RH I)
  (Luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
  hormone I) (GnRH I) (Luliberin I) (Gonadorelin); GnRH-associated
  peptide I].
DE Peptide I].
GN GNRH1 OR GNRH OR LHRH.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89366682; PubMed=2671939;
RA Hayflick J.S., Adelman J.P., Seeburg P.H.;
RT "The complete nucleotide sequence of the human gonadotropin-releasing
  hormone gene.";
RL Nucleic Acids Res. 17:6403-6403(1989).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=86094338; PubMed=2867548;
RA Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
RT "Isolation of the gene and hypothalamic cDNA for the common precursor
  of gonadotropin-releasing hormone and prolactin release-inhibiting
  factor in human and rat.";
RT factor in human and rat.";
RL Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).

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RN [3] SEQUENCE FROM N.A., AND VARIANT SER-16.
 RP MEDLINE=85012739; PubMed=6090951;
 RA Seeburg P.H., Adelman J.P.;
 RT "Characterization of cDNA for precursor of human luteinizing hormone
 releasing hormone.";
 RL Nature 311:666-668(1984).
 RN [4] SEQUENCE OF 24-33.
 RP MEDLINE=83126573; PubMed=6760865;
 RA Tan L., Rousseau P.;
 RT "The chemical identity of the immunoreactive LHRH-like peptide
 biosynthesized in the human placenta.";
 RL Biochem. Biophys. Res. Commun. 109:1061-1071(1982).
 RN [5] VARIANT SER-16.
 RP MEDLINE=99318093; PubMed=10391209;
 RA Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
 RA Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
 RA Lander E.S.;
 RT "Characterization of single-nucleotide polymorphisms in coding regions
 of human genes.";
 RL Nat. Genet. 22:231-238(1999).
 RN [6] VARIANT SER-16.
 RP MEDLINE=99318093; PubMed=10391209;
 RA Cargill M., Altshuler D., Ireland J., Sklar P., Ardlie K., Patil N.,
 RA Shaw N., Lane C.R., Lim E.P., Kalyanaraman N., Nemesh J., Ziaugra L.,
 RA Friedland L., Rolfe A., Warrington J., Lipshutz R., Daley G.Q.,
 RA Lander E.S.;
 RT "Characterization of single-nucleotide polymorphisms in coding regions
 of human genes.";
 RL Nat. Genet. 22:231-238(1999).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 the secretion of both luteinizing and follicle-stimulating
 hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- PHARMACEUTICAL: Available under the names Factrel (Ayerst Labs),
 Luterpulse or Lutrelief (Pferring Pharmaceuticals) and Relisorm
 (Serono).
 CC -!- SIMILARITY: Belongs to the GnRH family.
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 DR EMBL; X01059; CAA25526.1; -;
 DR EMBL; M12578; AAA55916.1; -;
 DR EMBL; X15215; CAA33285.1; -;
 DR PIR; S05308; RHUG.
 DR Genew; HGNC:4419; GNRH1.
 DR MIM; 152760; -;
 DR GO; GO:0005625; C:soluble fraction; TAS.
 DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; TAS.
 DR GO; GO:0007267; P:cell-cell signaling; TAS.
 DR GO; GO:0007275; P:development; TAS.
 DR GO; GO:0008285; P:negative regulation of cell proliferation; TAS.
 DR GO; GO:0007165; P:signal transduction; TAS.
 DR InterPro; IPR002012; GnRH.
 DR InterPro; IPR004079; Gonadoliberin.
 DR Pfam; PF00446; GnRH; 1.
 DR PRINTS; PR01541; GONADOLIBERN.
 DR PROSITE; PS00473; GNRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Placenta; Pharmaceutical; Signal; Polymorphism;
 KW Pyroglutamate carboxylic acid.
 FT SIGNAL 1 23 PROGONADOLIBERIN I.
 FT CHAIN 24 92 GONADOLIBERIN I.
 FT PEPTIDE 24 33
 FT PEPTIDE 37 92 GNRH-ASSOCIATED PEPTIDE I.
 FT ACT_SITE 26 26 APPEARS TO BE ESSENTIAL FOR BIOLOGICAL

FT MOD_RES 24 24 PYROLIDONE CARBOXYLIC ACID.
 FT MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
 FT VARIANT 16 16 W -> S (in GDSNP:6185).
 FT /FTID=VAR 013943.
 SQ SEQUENCE 92 AA; 10380 MW; 30A72221B076FA79 CRC64;
 Query Match 82.0%; Score 41; DB 1; Length 92;
 Best Local Similarity 60.0%; Pred. NO. 0.26; 3; Indels 0; Gaps 0;
 Matches 6; Conservative 1; Mismatches 0;
 Qy 1 EHWSXGXPG 10
 Db 24 QHWSYGLRPG 33
 RESULT 19
 ID GONL RAT STANDARD; PRT; 92 AA.
 AC P07490;
 DT 01-APR-1988 (Rel. 07, Created)
 DT 01-APR-1988 (Rel. 07, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Progonadoliberin I precursor [Contains: Gonadoliberin I (LH-RH I)
 DE (luteinizing hormone-releasing hormone I) (Gonadotropin-releasing
 DE hormone I) (GnRH I) (Luliberin I); Prolactin release-inhibiting factor
 DE I].
 DE GNRH1 OR GNRH.
 GN Rattus norvegicus (Rat).
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognath.; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1] SEQUENCE FROM N.A.
 RP MEDLINE=86094338; PubMed=2867548;
 RA Adelman J.P., Mason A.J., Hayflick J.S., Seeburg P.H.;
 RT "Isolation of the gene and hypothalamic cDNA for the common precursor
 of gonadotropin-releasing hormone and prolactin release-inhibiting
 factor in human and rat.";
 RL Proc. Natl. Acad. Sci. U.S.A. 83:179-183(1986).
 RN [2] SEQUENCE FROM N.A.
 RP MEDLINE=89384661; PubMed=2476669;
 RA Bond C.T., Hayflick J.S., Seeburg P.H., Adelman J.P.;
 RT "The rat gonadotropin-releasing hormone: SH locus: structure and
 RT hypothalamic expression.";
 RL Mol. Endocrinol. 3:1257-1262(1989).
 RN [3] SEQUENCE FROM N.A.
 RP TISSUE=Thymus;
 RX MEDLINE=93105480; PubMed=1468115;
 RA Maier C.C., Marchetti B., Leboeuf R.D., Bialock J.E.;
 RT "Thymocytes express a mRNA that is identical to hypothalamic
 RT luteinizing hormone-releasing hormone mRNA.";
 RL Cell. Mol. Neurobiol. 12:447-454(1992).
 RN [4] SEQUENCE OF 1-47 FROM N.A.
 RP TISSUE=Heart;
 RX MEDLINE=87149087; PubMed=3547652;
 RA Adelman J.P., Bond C.T., Douglass J., Herbert E.;
 RT "Two mammalian genes transcribed from opposite strands of the same
 RT DNA locus.";
 RL Science 235:1514-1517(1987).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 the secretion of both luteinizing and follicle-stimulating
 hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Central nervous system.
 CC -!- SIMILARITY: Belongs to the GnRH family.
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CC EMBL; S50870; AAB24572.1; -;
CC EMBL; M12579; AAA41263.1; -;
CC EMBL; M31670; AAA41264.1; -;
CC EMBL; M15279; AAA42141.1; -;
CC EMBL; M15229; AAA42139.1; -;
CC EMBL; M15528; -; NOT_ANNOTATED_CDS.
CC PIR; A40147; RHRTG.
CC InterPro; IPR002012; GnRH.
CC InterPro; IPR004079; GonadoliberinI.
CC Pfam; PF00446; GnRH; 1.
CC PRINTS; PR01541; GONADOLIBERNI.
CC PROSITE; PS00473; GnRH; 1.
CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Placenta; Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 92
FT PEPTIDE 24 33
FT ACT_SITE 26 26
FT MOD_RES 24 24
FT MOD_RES 33 33
FT SEQUENCE 92 AA; 10500 MW; 494B5C64DA8A3EB3 CRC64;
Query Match 82.0%; Score 41; DB 1; Length 92;
Best Local Similarity 60.0%; Pred. No. 0.26; 3; Indels 0; Gaps 0;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXXP 10
DB 24 QHWSYGLRPG 33

RESULT 20

GON1 TUPGB STANDARD; PRT; 92 AA.
AC Q95335;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Progonadoliberin I precursor (Contains: Gonadoliberin I (LH-RH I) (Luteinizing hormone-releasing hormone I) (Gonadotropin-releasing hormone I) (GnRH I) (Luliberin I); GnRH-associated peptide I).
DE GnRH1 OR GnRH.
OS Tupaia glis belangeri (Common tree shrew).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Scandentia; Tupaiidae; Tupaia.
ON NCBI_TaxID=37347;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Hypothalamus;
RX MEDLINE=97079639; PubMed=8921350;
RA Kasten T.L., White S.A., Norton T.T., Bond C.T., Adelman J.P., Fernald R.D.;
RA "Characterization of two new preproGnRH mRNAs in the tree shrew: first direct evidence for mesencephalic GnRH gene expression in a placental mammal.";
RT Gen. Comp. Endocrinol. 104:7-19(1996).
RL Gen. Comp. Endocrinol. 104:7-19(1996).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates the secretion of both luteinizing and follicle-stimulating hormones.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
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CC EMBL; U63326; AAB16837.1; -;
CC InterPro; IPR002012; GnRH.
CC InterPro; IPR004079; GonadoliberinI.
CC Pfam; PF00446; GnRH; 1.
CC PRINTS; PR01541; GONADOLIBERNI.
CC PROSITE; PS00473; GnRH; 1.
CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Placenta; Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 92
FT PEPTIDE 24 33
FT ACT_SITE 26 26
FT MOD_RES 24 24
FT MOD_RES 33 33
FT SEQUENCE 92 AA; 10197 MW; 4FDBF2C58CF5F63B CRC64;
Query Match 82.0%; Score 41; DB 1; Length 92;
Best Local Similarity 60.0%; Pred. No. 0.26; 3; Indels 0; Gaps 0;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXXP 10
DB 24 QHWSYGLRPG 33

RESULT 21

GON2 CHICK STANDARD; PRT; 10 AA.
AC P37043; P20408; P81750;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin II (Gonadotropin-releasing hormone II) (GnRH-II) (LH-RH II) (Luliberin II).
DE Gallus gallus (Chicken).
OS Alligator mississippiensis (American alligator),
OS Squalus acanthias (Spiny dogfish),
OS Hydrolagus colliei (Spotted ratfish) (Pacific ratfish), and
OS Clupea pallasi (Pacific herring).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae; Gallus.
ON NCBI_TaxID=9031, 8496, 7797, 7873, 30724;
RN [1]
RP SEQUENCE.
RC SPECIES=Chicken; TISSUE=Hypothalamus;
RX MEDLINE=8422059; PubMed=6427779;
RA Miyamoto K., Hasegawa Y., Nomura M., Igarashi M., Kangawa K., Matsuo H.;
RA "Identification of the second gonadotropin-releasing hormone in chicken hypothalamus: evidence that gonadotropin secretion is probably controlled by two distinct gonadotropin-releasing hormones in avian species.";
RT Proc. Natl. Acad. Sci. U.S.A. 81:3874-3878(1984).
RN [2]
RP SEQUENCE.
RC SPECIES=A. mississippiensis; TISSUE=Brain;
RX MEDLINE=911352338; PubMed=1882082;
RA Lovejoy D.A., Fischer W.H., Parker D.B., McRory J.E., Park M., Lance V., Swanson P., Rivier J.E., Sherwood N.M.;
RA "Primary structure of two forms of gonadotropin-releasing hormone from brains of the American alligator (Alligator mississippiensis).";
RT Regul. Pept. 33:105-116(1991).
RN [3]
RP SEQUENCE.

```

RC SPECIES=S.acanthias; TISSUE=Brain;
RX MEDLINE=92335300; PubMed=1631133;
RA Lovejoy D.A., Fischer W.H., Ngamvongchon S., Craig A.G.,
RA Nahorniak C.S., Peter R.E., Rivier J.E., Sherwood N.M.;
RT "Distinct sequence of gonadotropin-releasing hormone (GnRH) in
RT dogfish brain provides insight into GnRH evolution.";
RL Proc. Natl. Acad. Sci. U.S.A. 89:6373-6377(1992).
RN (4)
RP SEQUENCE.
RC SPECIES=H.colliiei; TISSUE=Brain;
RX MEDLINE=9134067; PubMed=1678723;
RA Lovejoy D.A., Sherwood N.M., Fischer W.H., Jackson B.C., Rivier J.E.,
RA Lee T.;
RT "Primary structure of gonadotropin-releasing hormone from the brain
RT of a holoccephalan (ratfish; Hydroloagus colliiei).";
RL Gen. Comp. Endocrinol. 82:152-161(1991).
RN (5)
RP SEQUENCE.
RC SPECIES=H.colliiei; TISSUE=Brain, and Pituitary;
RX MEDLINE=9134067; PubMed=1678723;
RA Lovejoy D.A., Sherwood N.M., Fischer W.H., Jackson B.C., Rivier J.E.,
RA Lee T.;
RT "Primary structure of gonadotropin-releasing hormone from the brain
RT of a holoccephalan (ratfish; Hydroloagus colliiei).";
RL Gen. Comp. Endocrinol. 82:152-161(1991).
RN (5)
RP SEQUENCE.
RC SPECIES=C.pallasii; TISSUE=Brain, and Pituitary;
RX MEDLINE=20114351; PubMed=10650929;
RA Carolsfeld J., Powell J.F.F., Park M., Fischer W.H., Craig A.G.,
RA Carolsfeld J., Powell J.F.F., Park M., Fischer W.H., Craig A.G.,
RA Chang J.P., Rivier J.E., Sherwood N.M.;
RT "Primary structure and function of three gonadotropin-releasing
RT hormones, including a novel form, from an ancient teleost, herring.";
RL Endocrinology 141:505-512(2000).
RN (4)
RP SEQUENCE.
RC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
DR PIR; A61126; A61126.
DR PIR; A6030; B46030.
DR PIR; B60066; RHAQ2.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
DR Hormone; Amidation; Hypothalamus; Pyrrolidone carboxylic acid.
FT MOD_RES 10 1 PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 10 10 AMIDATION.
SQ SEQUENCE 10 AA; 1254 MW; 284B2E437871F5A3 CRC64;

Query Match 80.0%; Score 40; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.043;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
DB 1 QHWSHGWLPG 10

RESULT 22
CON3-ONCKE
ID GON3-ONCKE STANDARD; PRT; 10 AA.
AC P20367; P81751;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein III (Gonadotropin-releasing hormone III) (GnRH-III) (LH-
DE RH III) (Luliberin III).
GN GNRH3.
OS Oncorhynchus keta (Chum salmon), and
OS Clupea pallasii (Pacific herring).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8016, 30724;
RN (1)
RP SEQUENCE.
RC SPECIES=O.keta;
RX MEDLINE=83195140; PubMed=6341999;
RA Sherwood N., Eiden L., Brownstein M., Spiess J., Rivier J., Vale W.;
RA "Characterization of a teleost gonadotropin-releasing hormone.";
RL Proc. Natl. Acad. Sci. U.S.A. 80:2794-2798(1983).
RN (2)
RP SEQUENCE, AND FUNCTION.

```

```

RC SPECIES=C.pallasii; TISSUE=Brain, and Pituitary;
RX MEDLINE=20114351; PubMed=10650929;
RA Carolsfeld J., Powell J.F.F., Park M., Fischer W.H., Craig A.G.,
RA Chang J.P., Rivier J.E., Sherwood N.M.;
RT "Primary structure and function of three gonadotropin-releasing
RT hormones, including a novel form, from an ancient teleost, herring.";
RL Endocrinology 141:505-512(2000).
RN (4)
RP SEQUENCE.
CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
CC the secretion of both luteinizing and follicle-stimulating
CC hormones.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
DR PIR; A21114; A21114.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
DR Hormone; Amidation; Hypothalamus; Pyrrolidone carboxylic acid.
FT MOD_RES 10 1 PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 10 10 AMIDATION.
SQ SEQUENCE 10 AA; 1230 MW; 284B3233786B45A3 CRC64;

Query Match 80.0%; Score 40; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.043;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
DB 1 QHWSHGWLPG 10

RESULT 23
GONL-SQUAC
ID GONL-SQUAC STANDARD; PRT; 10 AA.
AC P27429;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein (Gonadotropin-releasing hormone) (GnRH) (LH-RH)
DE (Luliberin).
OS Squalus acanthias (Spiny dogfish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
OC Elasmobranchii; Squala; Squaloidei; Squalidae; Squalus.
OX NCBI_TaxID=7797;
RN (1)
RP SEQUENCE.
RC TISSUE=Brain;
RX MEDLINE=92335300; PubMed=1631133;
RA Lovejoy D.A., Fischer W.H., Ngamvongchon S., Craig A.G.,
RA Nahorniak C.S., Peter R.E., Rivier J.E., Sherwood N.M.;
RT "Distinct sequence of gonadotropin-releasing hormone (GnRH) in
RT dogfish brain provides insight into GnRH evolution.";
RL Proc. Natl. Acad. Sci. U.S.A. 89:6373-6377(1992).
RN (4)
RP SEQUENCE.
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
DR PIR; A46030; A46030.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
DR Hormone; Amidation; Hypothalamus; Pyrrolidone carboxylic acid.
FT MOD_RES 10 1 PYRROLIDONE CARBOXYLIC ACID.
FT MOD_RES 10 10 AMIDATION.
SQ SEQUENCE 10 AA; 1204 MW; 284B32337871F5A3 CRC64;

Query Match 80.0%; Score 40; DB 1; Length 10;
Best Local Similarity 60.0%; Pred. No. 0.043;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
DB 1 QHWSHGWLPG 10

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RESULT 24
GON3_ONCMY STANDARD; PRT; 74 AA.
AC PS5246;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III)
DE (GNRH-III) (LH-RH III) (Luliberin III) (Fragment).
GN GNRH3.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Muscle;
RX MEDLINE=92267241; PubMed=1587389;
RA Klungland H., Lorens J.B., Andersen O., Kisen G.O., Alestroem P.;
RT "The Atlantic salmon prepro-gonadotropin releasing hormone gene and
RT mRNA."
RL Mol. Cell. Endocrinol. 84:167-174 (1992).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC
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CC -----
CC EMBL; X79711; CAA56150.1; -
CC FIRM; I51092; I51092.
CC InterPro; IPR002012; GNRH.
CC Pfam; PF00446; GNRH; 1.
CC PROSITE; PS00473; GNRH; 1.
CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyroglutamate carboxylic acid.
FT NON_TER 1 1
FT SIGNAL <1 15 BY SIMILARITY
FT CHAIN 16 74 PROGNADOLIBERIN III.
FT PEPTIDE 16 25 GONADOLIBERIN III.
FT PEPTIDE 29 74 GNRH-ASSOCIATED PEPTIDE III.
FT MOD_RES 16 16 PYROLIDONE CARBOXYLIC ACID
FT MOD_RES 25 25 AMIDATION (G-26 PROVIDE AMIDE GROUP).
FT MOD_RES 74 AA; 8254 MW; BEAF0B783F80EF84 CRC64;
SQ SEQUENCE 74 AA; 8254 MW; 80.0%; Score 40; DB 1; Length 74;
Query Match 80.0%; Score 40; DB 1; Length 74;
Best Local Similarity 60.0%; Pred. No. 0.32;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
Db |||||
16 QHWSYGLWPG 25

RESULT 25
GON3_ONCMY STANDARD; PRT; 80 AA.
AC Q9DCG9; Q8J1Q5;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DE Gonadoliberein II precursor (Chicken-type II gonadotropin-releasing
DE hormone) (cGNRH-II) (Contains: Gonadoliberein II (LH-RH II)
DE (Luteinizing hormone releasing hormone II) (Gonadotropin-releasing
DE hormone II) (GNRH II) (Luliberin II); GNRH-associated peptide II).
OS Oryzias latipes (Medaka fish) (Japanese ricefish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Acanthomorpha; Acanthopterygii; Perciformes; Atherinomorpha;
OC Belontiiformes; Adrianichthyidae; Oryziinae; Oryzias.
OX NCBI_TaxID=8090;

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RN  [1]
RP  SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC  TISSUE=Brain;
RX  MEDLINE=20462954; PubMed=11006121;
RA  Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT  "A novel form of gonadotropin-releasing hormone in the medaka,
RL  Oryzias latipes.";
RN  [2]
RP  Biochem. Biophys. Res. Commun. 276:298-303 (2000).
RC  SEQUENCE FROM N.A.
RX  STRAIN=HNI, and Hinedaka;
RA  MEDLINE=22133319; PubMed=12137956;
RT  Akakawa S., Mitani H., Naruse K., Kondo M., Shima A., Tanaka M.,
RT  Shimizu N., Yoshiura Y., Aida K.;
RT  "Structural characterization of GnRH loci in the medaka genome.";
RN  Gene 293:181-189 (2002).
CC  -1- FUNCTION: Stimulates the secretion of gonadotropins (By
CC  similarity).
CC  -1- SUBCELLULAR LOCATION: Secreted.
CC  -1- TISSUE SPECIFICITY: Expressed in the cell bodies of a cluster of
CC  neurons in the midbrain tegmentum.
CC  -1- MISCELLANEOUS: Teleost species possess three paralogous GnRHs:
CC  mdGnRH and cGnRH-II have been identified in tetrapods; sGnRH has
CC  no tetrapod ortholog and is thought to be a duplication of cGnRH-
CC  II.
CC  -1- SIMILARITY: Belongs to the GnRH family.
CC  -----
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CC  -----
CC  EMBL; AB041330; BAB16300.1; -.
CC  EMBL; AB041334; BAC06417.1; -.
CC  EMBL; AB074500; BAC06423.1; -.
CC  PIR; JC7394; JCT394.
CC  GO; GO:0005576; C:extracellular; ISS.
CC  GO; GO:0005183; F:luteinizing hormone-releasing factor activity; ISS.
CC  GO; GO:0007275; P:development; ISS.
CC  InterPro; IPR002012; GnRH.
CC  Pfam; PF00446; GnRH; 1.
CC  PROSITE; PS00473; GnRH; 1.
CC  Cleavage on pair of basic residues; Hormone; Amidation; Signal;
CC  Multigene family; Pyrrolidone carboxylic acid.
CC  SIGNAL 1 21
CC  CHAIN 22 80
CC  PEPTIDE 22 31
CC  PEPTIDE 35 80
CC  MOD_RES 22 22
CC  MOD_RES 31 31
CC  MOD_RES 31 31
CC  AMIDATION (G-32 PROVIDE AMIDE GROUP) (BY
CC  SIMILARITY).
CC  T -> A (IN REF. 2; BAC06423).
CC  Y -> F (IN REF. 2; BAC06423).
CC  S -> N (IN REF. 2; BAC06423).
CC  A -> T (IN REF. 2; BAC06423).
CC  CARB8F1B06B9AF26E CRC64;
CC  SEQUENCE 80 AA; 9311 MW;
Query Match 80.0%; Score 40; DB 1; Length 80;
Best Local Similarity 60.0%; Pred. No. 0.35;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXKPG 10
DB 22 QHWSHGWP 31
RESULT 27
GON3_ONCMA
ID_GON3_ONCMA STANDARD; PRT; 82 AA.

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AC  P30973;
DT  01-JUL-1993 (Rel. 26, Created)
DT  01-JUL-1993 (Rel. 26, Last sequence update)
DT  28-FEB-2003 (Rel. 41, Last annotation update)
DE  Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
DE  (GNRH-III) (LH-RH III) (Luliberin III).
GN  GNRH3.
OS  Oncorhynchus masou (Cherry salmon) (Masu salmon).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC  Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX  NCBI_TaxID=8020;
RN  [1]
RP  SEQUENCE FROM N.A.
RX  MEDLINE=92384893; PubMed=1515027;
RA  Suzuki M., Hyodo S., Kobayashi M., Aida K., Urano A.;
RT  "Characterization and localization of mRNA encoding the salmon-type
RT  gonadotropin-releasing hormone precursor of the masu salmon.";
RL  J. Mol. Endocrinol. 9:73-82 (1992).
CC  -1- FUNCTION: Stimulates the secretion of gonadotropins.
CC  -1- SUBCELLULAR LOCATION: Secreted.
CC  -1- SIMILARITY: Belongs to the GnRH family.
CC  -----
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CC  -----
CC  EMBL; D10946; BAA01740.1; -.
CC  EMBL; S44614; AAB63599.1; -.
CC  PIR; I51180; I51180.
CC  InterPro; IPR002012; GnRH.
CC  Pfam; PF00446; GnRH; 1.
CC  PROSITE; PS00473; GnRH; 1.
CC  Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
CC  Signal; Pyrrolidone carboxylic acid.
CC  SIGNAL 1 23
CC  CHAIN 24 82
CC  PEPTIDE 24 33
CC  PEPTIDE 37 82
CC  MOD_RES 24 24
CC  MOD_RES 33 33
CC  MOD_RES 33 33
CC  AMIDATION (G-34 PROVIDE AMIDE GROUP).
CC  SEQUENCE 82 AA; 9184 MW; 7595A0B896489B86 CRC64;
Query Match 80.0%; Score 40; DB 1; Length 82;
Best Local Similarity 60.0%; Pred. No. 0.36;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXKPG 10
DB 24 QHWSHGWP 33
RESULT 28
GON3_SALSA
ID_GON3_SALSA STANDARD; PRT; 82 AA.
AC  P35629; P51920;
DT  01-JUN-1994 (Rel. 29, Created)
DT  01-JUN-1994 (Rel. 29, Last sequence update)
DT  28-FEB-2003 (Rel. 41, Last annotation update)
DE  Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
DE  (GNRH-III) (LH-RH III) (Luliberin III).
GN  GNRH3.
OS  Salmo salar (Atlantic salmon).
OC  Salvelinus fontinalis (Brook trout) (Brook char), and
OC  Oncorhynchus nerka (Sockeye salmon).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC  Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.

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OX NCBI_TaxID=8030, 8038, 8023;
RN [1]
RP SEQUENCE FROM N.A.
RC SPECIES=S. salar, and S. fontinalis; TISSUE=Hypothalamus;
RX MEDLINE=92267241; PubMed=1587389;
RA Klungland H., Lorenz J.B., Andersen O., Kisen G.O., Alestroem P.;
RT "The Atlantic salmon prepro-gonadotropin releasing hormone gene and
RN mRNA.";
RL Mol. Cell. Endocrinol. 84:167-174 (1992).
RN [2]
RP SEQUENCE FROM N.A.
RC SPECIES=O. nerka; TISSUE=Liver;
RX MEDLINE=96227617; PubMed=8674859;
RA Coe I.R., von Schalburg K.R., Sherwood N.M.;
RT "Characterization of the Pacific salmon gonadotropin-releasing hormone
RN gene, copy number and transcription start site.";
RL Mol. Cell. Endocrinol. 115:113-122 (1995).
RN [3]
RP SEQUENCE FROM N.A.
RC SPECIES=O. nerka; STRAIN=Nikko; TISSUE=Brain;
RX MEDLINE=9620547; PubMed=8546809;
RA Ashihara M., Suzuki M., Kubokawa K., Aida K., Urano A.;
RT "Two differing precursor genes for the salmon-type gonadotropin-
RN releasing hormone exist in salmonids.";
RL J. Mol. Endocrinol. 15:1-9 (1995).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Brain.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC -----
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CC -----
DR EMBL; X79709; CAA56148.1; -
DR EMBL; X74957; CAA52912.1; -
DR EMBL; X79712; CAA56151.1; -
DR EMBL; X91408; CAA62751.1; -
DR EMBL; D31869; BAA06667.1; -
DR PIR; I51331; I51331.
DR PIR; I51356; I51355.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 82
FT PEPTIDE 24 33
FT PEPTIDE 37 82
FT MOD_RES 24 24
FT MOD_RES 33 33
FT MOD_RES 33 33
FT VARIANT 81 81
FT SEQUENCE 82 AA; 9143 MW; 8053F4E4A765408 CRC64;
Query Match 80.0%; Score 40; DB 1; Length 82;
Best Local Similarity 60.0%; Pred. No. 0.36;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXXP 10
DB 24 QHWSYGLP 33
RESULT 29
CON3_SALTR STANDARD; PRT; 82 AA.
AC P45653;

```

```

DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Progonadoliberein III precursor [Contains: Gonadoliberein III
DE (Luteinizing hormone releasing hormone III) (Gonadotropin-releasing
DE hormone III) (GnRH-III) (LH-RH III) (Luliberin III); GnRH-associated
DE peptide III].
GN GNRH3.
OS Salmo trutta (Brown trout).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX NCBI_TaxID=8032;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Muscle;
RA Klungland H., Anderson O., Alestroem P.;
RT "The salmon gonadotropin-releasing hormone encoding gene in
RN salmonids.";
RL Mol. Mar. Biol. Biotechnol. 1:420-425 (1992).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC -----
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CC -----
DR EMBL; X79713; CAA56152.1; -
DR PIR; I51365; I51365.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 82
FT PEPTIDE 24 33
FT PEPTIDE 37 82
FT MOD_RES 24 24
FT MOD_RES 33 33
FT SEQUENCE 82 AA; 9191 MW; 8053B9534A765408 CRC64;
Query Match 80.0%; Score 40; DB 1; Length 82;
Best Local Similarity 60.0%; Pred. No. 0.36;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXXP 10
DB 24 QHWSYGLP 33
RESULT 30
CON2_DICLA STANDARD; PRT; 85 AA.
AC G91A08;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberein II precursor (Gonadotropin-releasing hormone II)
DE (GnRH-II) (LH-RH II) (Luliberin II).
GN GNRH2.
OS Dicertrarchus labrax (European sea bass).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
OC Moronidae; Dicertrarchus.
OX NCBI_TaxID=13489;
RN [1]

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DR EMBL; AF056313; AAD03816.1; -
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 23
 FT CHAIN 24 85
 FT PEPTIDE 24 33
 FT PEPTIDE 37 85
 FT MOD_RES 24 24
 FT MOD_RES 33 33
 FT MOD_RES 33 33
 FT SEQUENCE 85 AA; 9673 MW; F832D5B3BC942C64 CRC64;
 SQ

Query Match 80.0%; Score 40; DB 1; Length 85;
 Best Local Similarity 60.0%; Pred. No. 0.37;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXXP 10
 :|||:|
 Db 24 QHWSHGWTYPG 33

RESULT 33
 GON2_SPAAU STANDARD; PRT; 85 AA.
 AC P51925;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberin II precursor (Gonadotropin-releasing hormone II)
 DE (GnRH-II) (LH-RH II) (Luliberin II).
 GN GnRH2.
 OS Sparus aurata (Gilthead sea bream).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 CC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
 CC Sparidae; Sparus.
 CC NCBI_TaxID=8175;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=99061849; PubMed=9843645;
 RA Holland M.C.H., Gohlif Y., Meiri I., King J.A., Okuzawa K.,
 RA Elizur A., Zohar Y.;
 RT "Levels of the native forms of GnRH in the pituitary of the gilthead
 RT seabream, Sparus aurata, at several characteristic stages of the
 RT gonadal cycle";
 RL Gen. Comp. Endocrinol. 112:394-405 (1998).
 RN [2]

SEQUENCE OF 24-33.
 TISSUE=Brain;
 RC MEDLINE=95083645; PubMed=7991588;
 RX Powell J.F.F., Zohar Y., Elizur A., Park M., Fischer W.H.,
 RA Craig A.G., Rivier J.E., Lovejoy D.A., Sherwood N.M.;
 RT "Three forms of gonadotropin-releasing hormone characterized from
 RT brains of one species";
 RL Proc. Natl. Acad. Sci. U.S.A. 91:12081-12085 (1994).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- MASS SPECTROMETRY: MW=1236.6; METHOD=MALDI; RANGE=24-33.
 CC -!- SIMILARITY: Belongs to the GnRH family.

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DR EMBL; U30325; AAA75447.1; -
 DR InterPro; IPR002012; GnRH.
 DR Pfam; PF00446; GnRH; 1.
 DR PROSITE; PS00473; GnRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 KW Signal; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 23
 FT CHAIN 24 85
 FT PEPTIDE 24 33
 FT PEPTIDE 37 85
 FT MOD_RES 24 24
 FT MOD_RES 33 33
 FT SEQUENCE 85 AA; 9543 MW; B53165C127722CC CRC64;
 SQ

Query Match 80.0%; Score 40; DB 1; Length 85;
 Best Local Similarity 60.0%; Pred. No. 0.37;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXXP 10
 :|||:|
 Db 24 QHWSHGWTYPG 33

RESULT 34
 GO2A_CARAU STANDARD; PRT; 86 AA.
 ID GO2A_CARAU
 AC P51924;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Progonadoliberin IIA precursor [Contains: Gonadoliberin II (LH-RH II)
 DE (luteinizing hormone-releasing hormone II) (Gonadotropin-releasing
 DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide IIA].
 GN GnRH2A OR GnRH2.
 OS Carassius auratus (Goldfish).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
 CC Cyprinidae; Carassius.
 CC NCBI_TaxID=7957;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=96276584; PubMed=8729938;
 RA Lin X.-W., Peter R.E.;
 RT "Expression of salmon gonadotropin-releasing hormone (GnRH) and
 RT chicken GnRH-II precursor messenger ribonucleic acids in the brain
 RT and ovary of goldfish";
 RL Gen. Comp. Endocrinol. 101:282-296 (1996).
 RN [2]

SEQUENCE OF 33-57 FROM N.A. AND TISSUE SPECIFICITY.
 RC STRAIN=Comet, and Common; TISSUE=Liver;
 RX MEDLINE=97426020; PubMed=92899408;
 RA Lin X.-W., Peter R.E.;
 RT "Cloning and expression pattern of a second
 RT (HisTrpTyr8)gonadotropin-releasing hormone (chicken GnRH-H-II) mRNA
 RT in goldfish: evidence for two distinct genes";
 RL Gen. Comp. Endocrinol. 107:262-272 (1997).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Olfactory bulbs, hypothalamus and
 CC telencephalon, midbrain and posterior brain areas.
 CC -!- SIMILARITY: Belongs to the GnRH family.

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FT SIGNAL 1 24
FT CHAIN 25 86
FT PEPTIDE 25 34
FT PEPTIDE 25 34
FT PEPTIDE 38 86
FT MOD_RES 25 25
FT MOD_RES 34 34
FT MOD_RES 34 34
SQ SEQUENCE 86 AA; 9766 MW; 4AD9F24597E77EBF CRC64;

Query Match 80.0%; Score 40; DB 1; Length 86;
Best Local Similarity 60.0%; Pred. No. 0.38;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
   :|||:
Db 25 QHWSHGWTGP 34

RESULT 37
GON2_ONCMY STANDARD; PRT; 86 AA.
AC O42241;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin II precursor (Gonadotropin-releasing hormone II)
DE (GNRH-II) (LH-RH II) (Luliberin II)
GN GNRH2.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RA Penlington M.C.;
RL Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
CC
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CC
CC -----
CC EMBL; AF023618; AAB82559.1;
CC InterPro; IPR002012; GNRH.
CC Pfam; PF00446; GNRH; 1.
CC PROSITE; PS00473; GNRH; 1.
CC Signal; Pyrolydione carboxylic acid.
CC CHAIN 1 24 BY SIMILARITY.
CC CHAIN 25 86 PROGNADOLIBERIN II.
CC PEPTIDE 25 34 GONADOLIBERIN II.
CC PEPTIDE 38 86 GNRH-ASSOCIATED PEPTIDE II.
CC PEPTIDE 38 86 GNRH-ASSOCIATED PEPTIDE II.
CC MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID
CC (BY SIMILARITY).
CC MOD_RES 34 34 AMIDATION (G-35 PROVIDE AMIDE GROUP).
CC SEQUENCE 86 AA; 9723 MW; D6EBD59151DC9915 CRC64;

Query Match 80.0%; Score 40; DB 1; Length 86;
Best Local Similarity 60.0%; Pred. No. 0.38;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
   :|||:
Db 25 QHWSHGWTGP 34

RESULT 38
GON2_ONCMY STANDARD; PRT; 86 AA.
AC O42241;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin II precursor (Gonadotropin-releasing hormone II)
DE (GNRH-II) (LH-RH II) (Luliberin II)
GN GNRH2.
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RA Penlington M.C.;
RL Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
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CC
CC -----
CC EMBL; AF023618; AAB82559.1;
CC InterPro; IPR002012; GNRH.
CC Pfam; PF00446; GNRH; 1.
CC PROSITE; PS00473; GNRH; 1.
CC Signal; Pyrolydione carboxylic acid.
CC CHAIN 1 24 BY SIMILARITY.
CC CHAIN 25 86 PROGNADOLIBERIN II.
CC PEPTIDE 25 34 GONADOLIBERIN II.
CC PEPTIDE 38 86 GNRH-ASSOCIATED PEPTIDE II.
CC PEPTIDE 38 86 GNRH-ASSOCIATED PEPTIDE II.
CC MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID
CC (BY SIMILARITY).
CC MOD_RES 34 34 AMIDATION (G-35 PROVIDE AMIDE GROUP).
CC SEQUENCE 86 AA; 9723 MW; D6EBD59151DC9915 CRC64;

Query Match 80.0%; Score 40; DB 1; Length 86;
Best Local Similarity 60.0%; Pred. No. 0.38;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
   :|||:
Db 25 QHWSHGWTGP 34

RESULT 39
GON3_PORNO STANDARD; PRT; 89 AA.
AC PS1922;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
DE (GNRH-III) (LH-RH III) (Luliberin III)
GN GNRH3.
OS Perichthys notatus (plainfin midshipman).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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GON2_RUTRU STANDARD; PRT; 86 AA.
AC Q91330;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin II precursor (Gonadotropin-releasing hormone II)
DE (GNRH-II) (LH-RH II) (Luliberin II)
GN GNRH2.
OS Rutilus rutilus (Roach).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Rutilus.
OX NCBI_TaxID=48668;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RX MEDLINE=98121986; PubMed=9460654;
RA Penlington M.C.; Williams M.A.; Sumpter J.P.; Rand-Weaver M.;
RA Hoole D.; Arme C.;
RT "Isolation and characterisation of mRNA encoding the salmon- and
RT chicken- II type gonadotropin-releasing hormones in the teleost fish
RT Rutilus rutilus (Cyprinidae)".
RL J. Mol. Endocrinol. 19:337-346(1997).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GNRH family.
CC
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CC
CC -----
CC EMBL; U60668; AAB65770.1;
CC InterPro; IPR002012; GNRH.
CC Pfam; PF00446; GNRH; 1.
CC PROSITE; PS00473; GNRH; 1.
CC Signal; Pyrolydione carboxylic acid.
CC CHAIN 1 24 BY SIMILARITY.
CC CHAIN 25 86 PROGNADOLIBERIN II.
CC PEPTIDE 25 34 GONADOLIBERIN II.
CC PEPTIDE 38 86 GNRH-ASSOCIATED PEPTIDE II.
CC MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID
CC (BY SIMILARITY).
CC MOD_RES 34 34 AMIDATION (G-35 PROVIDE AMIDE GROUP).
CC SEQUENCE 86 AA; 9838 MW; 931E886357715P40 CRC64;

Query Match 80.0%; Score 40; DB 1; Length 86;
Best Local Similarity 60.0%; Pred. No. 0.38;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
   :|||:
Db 25 QHWSHGWTGP 34

RESULT 39
GON3_PORNO STANDARD; PRT; 89 AA.
AC PS1922;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
DE (GNRH-III) (LH-RH III) (Luliberin III)
GN GNRH3.
OS Perichthys notatus (plainfin midshipman).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Paracanthopterygii; Batrachoididae; Porichthys.
 OX NCBI_TaxID=45384;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95385993; PubMed=7657161;
 RA Grober M.S., Myers T.R., Marchaterre M.A., Bass A.H., Myers D.A.; from
 RT "Structure, localization, and molecular phylogeny of a GnRH cDNA from
 RT a paracanthopterygian fish, the plainfin midshipman (Porichthys
 notatus).";
 RL Gen. Comp. Endocrinol. 99:85-99(1995).
 CC -1- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; U41669; AAC59754.1; -
 CC EMBL; S79620; AAB35188.1; -
 CC InterPro; IPR002012; GnRH.
 CC Pfam; PF00446; GnRH; 1.
 CC PROSITE; PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Signal; Pyrrolidone carboxylic acid.
 CC SIGNAL 1 23 BY SIMILARITY.
 CC CHAIN 24 33 GONADOLIBERIN III.
 CC PEPTIDE 24 33 GONADOLIBERIN III.
 CC PEPTIDE 37 82 GnRH-ASSOCIATED PEPTIDE III (POTENTIAL).
 CC MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
 CC (BY SIMILARITY).
 CC MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
 CC SEQUENCE 89 AA; 10118 MW; AED532789B9F1475 CRC64;
 KW Query Match 80.0%; Score 40; DB 1; Length 89;
 KW Best Local Similarity 60.0%; Pred. No. 0.39;
 KW Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSGXKXPG 10
 Db 24 QHWSYGLPG 33
 :|||:|
 RESULT 40
 GON3_DICLA STANDARD; PRT; 90 AA.
 AC Q91A09;
 DT 16-OCT-2001 (Rel. 40, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III)
 DE (GnRH-III) (LH-RH III) (Luliberin III).
 GN GNRH3.
 OS Dicotylarchus labrax (European sea bass).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Perciformes; Percoidae;
 OC Moronidae; Dicotylarchus.
 OX NCBI_TaxID=13489;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=20540016; PubMed=11086295;
 RA Gonzalez-Martinez D., Madigou T., Zmora N., Anglade I., Zanuy S.,
 RA Zohar Y., Elizur A., Munoz-Cueto J.A., Kah C.;
 RT "Differential expression of three different prepro-GnRH
 RT (gonadotropin-releasing hormone) messengers in the brain of the
 RT european sea bass (Dicentrarchus labrax).";

J. Comp. Neurol. 429:144-155(2001).
 -1- FUNCTION: Stimulates the secretion of gonadotropins (By
 similarity).
 -1- SUBCELLULAR LOCATION: Secreted.
 -1- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; AF224280; AAB62899.1; -
 CC InterPro; IPR002012; GnRH.
 CC Pfam; PF00446; GnRH; 1.
 CC PROSITE; PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Signal; Pyrrolidone carboxylic acid.
 CC SIGNAL 1 23 BY SIMILARITY.
 CC CHAIN 24 33 GONADOLIBERIN III.
 CC PEPTIDE 24 33 GONADOLIBERIN III.
 CC PEPTIDE 37 82 GnRH-ASSOCIATED PEPTIDE III (POTENTIAL).
 CC MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
 CC (BY SIMILARITY).
 CC MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
 CC SEQUENCE 90 AA; 10154 MW; B06A7BA413930C67 CRC64;
 KW Query Match 80.0%; Score 40; DB 1; Length 90;
 KW Best Local Similarity 60.0%; Pred. No. 0.39;
 KW Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWSGXKXPG 10
 Db 24 QHWSYGLPG 33
 :|||:|
 RESULT 41
 GON3_HAPBU STANDARD; PRT; 90 AA.
 AC P45652;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III)
 DE (GnRH-III) (LH-RH III) (Luliberin III).
 GN GNRH3.
 OS Haplochromis burtoni (Burton's mouthbrooder).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Perciformes; Labroidae;
 OC Cichlidae; Astototilapia.
 OX NCBI_TaxID=8153;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=92049375; PubMed=1944299;
 RA Bond C.T., Francis R.C., Fernald R.D., Adelman J.P.;
 RT "Characterization of complementary DNA encoding the precursor for
 RT gonadotropin-releasing hormone and its associated peptide from a
 RT teleost fish.";
 RL Mol. Endocrinol. 5:931-937(1991).
 CC -1- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: EXPRESSED ONLY IN THE TERMINAL NERVE NUCLEUS
 CC OF THE TELECEPHALON.
 CC -1- SIMILARITY: Belongs to the GnRH family.
 CC PIR; A23735; A23735.
 CC InterPro; IPR002012; GnRH.
 CC Pfam; PF00446; GnRH; 1.
 CC PROSITE; PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Signal; Multigene family; Pyrrolidone carboxylic acid.

```

FT SIGNAL 1 23
FT CHAIN 24 30
FT PEPTIDE 24 33
FT PEPTIDE 37 82
FT MOD_RES 24 24
FT MOD_RES 33 33
FT MOD_SEQUENCE 90 AA; 10096 MW; B36362E9F4A53A4E CRC64;

Query Match 80.0%; Score 40; DB 1; Length 90;
Best Local Similarity 60.0%; Pred. No. 0.39;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXXP 10
Db 24 QHWSYGLPG 33

RESULT 42
GON3_ORYLA STANDARD; PRT; 90 AA.
AC Q9DD49; Q8UIQ3;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Progonadolibirin III precursor (Salmon-type gonadotropin-releasing
DE hormone) (sGnRH) (Contains: Gonadolibirin III (LH-RH III) (Luteinizing
DE hormone releasing hormone III) (Gonadotropin releasing hormone III)
DE (GnRH III) (Luliberin III); GnRH-associated peptide III).
OS Oryzias latipes (Medaka fish) (Japanese ricefish).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Perciformes; Atherinomorpha;
OC Belontiiformes; Adrianichthyidae; Oryziinae; Oryzias.
OX NCBI_TaxID=8090;
RN [1]
RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC TISSUE=Brain;
RX MEDLINE=20462954; PubMed=11006121;
RA Okubo K., Amano M., Yoshiura Y., Suetake H., Aida K.;
RT "A novel form of gonadotropin-releasing hormone in the medaka,
RT Oryzias latipes.";
RL Biochem. Biophys. Res. Commun. 276:298-303(2000).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=HNI, and Himekaka;
RX MEDLINE=22133319; PubMed=12137956;
RA Okubo K., Mitani H., Naruse K., Kondo M., Shima A., Tanaka M.,
RA Asakawa S., Shimizu N., Yoshiura Y., Aida K.;
RT "Structural characterization of GnRH loci in the medaka genome.";
RL Gene 293:181-189(2002).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
CC similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Expressed in neuron cell bodies of the nucleus
CC olfactoresinalis.
CC mdGnRH and cGnRH-II have been identified in teleosts; sGnRH has
CC no tetrapod ortholog and is thought to be a duplication of cGnRH-
CC II.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC
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CC
CC EMBL; A8041331; BAB16301.1; --
CC EMBL; A8041332; BAB16302.1; --
CC EMBL; A8041335; BAC06418.1; --

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DR EMBL; AB074501; BAC06425.1; --
DR FIR; JC7395; JC7395.
DR GO; GO:0005576; C:extracellular; ISS.
DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; ISS.
DR GO; GO:0007275; P:development; ISS.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
KW Multigene family; Pyrrolidone carboxylic acid.
FT SIGNAL 1 23
FT CHAIN 24 90
FT PEPTIDE 24 33
FT PEPTIDE 37 90
FT MOD_RES 24 24
FT MOD_RES 33 33
FT MOD_RES 33 33
FT MOD_SEQUENCE 90 AA; 10176 MW; AE0B3DC9047475B9 CRC64;
FT CONFLICT 17 17
FT CONFLICT V -> M (IN REF. 2; BAC06425).
SQ SEQUENCE 90 AA; 10176 MW; AE0B3DC9047475B9 CRC64;

Query Match 80.0%; Score 40; DB 1; Length 90;
Best Local Similarity 60.0%; Pred. No. 0.39;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXXP 10
Db 24 QHWSYGLPG 33

RESULT 43
GON3_PAGMA STANDARD; PRT; 90 AA.
AC P51921;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Gonadolibirin III precursor (Gonadotropin-releasing hormone III)
DE (GnRH-III) (LH-RH III) (Luliberin III).
DN GnRH3.
OS Pagrus major (Red sea bream) (Chrysophrys major).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Perciformes; Perciformes; Percoidae;
OC Sparidae; Pagrus.
OX NCBI_TaxID=143350;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Olfactory bulb;
RX MEDLINE=95154651; PubMed=7851723;
RA Okuzawa K., Araki K., Tanaka H., Kagawa H., Hirose K.;
RT "Molecular cloning of a cDNA encoding the prepro-salmon gonadotropin-
RT releasing hormone of the red seabream.";
RL Gen. Comp. Endocrinol. 96:234-242(1994).
CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the GnRH family.
CC
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CC or send an email to license@isb-sib.ch).
CC
CC EMBL; D26108; BAA05104.1; --
DR FIR; I51095; I51095.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
KW Signal; Pyrrolidone carboxylic acid.

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FT SIGNAL 1 23 BY SIMILARITY.
 FT CHAIN 24 90 PROGNADOLIBERIN III.
 FT PEPTIDE 24 33 GONADOLIBERIN III.
 FT PEPTIDE 37 82 GNRH-ASSOCIATED PEPTIDE III (POTENTIAL).
 FT MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
 (BY SIMILARITY).
 FT MOD_RES 33 33 AMIDATION (G-34, PROVIDE AMIDE GROUP).
 SQ SEQUENCE 90 AA; 10070 MW; FB4E5993868C2FBD CRC64;

Query Match 80.0%; Score 40; DB 1; Length 90;
 Best Local Similarity 60.0%; Pred. No. 0.39;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
 DB 24 QHWSYGLWPG 33

RESULT 44
 GON3_SPAU STANDARD; PRT; 90 AA.
 ID GON3_SPAU
 AC P51923;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberin III precursor (Gonadotropin-releasing hormone III)
 DE (GNRH-III) (LH-RH III) (Luliberin III).
 GN GNRH3.
 OS Sparus aurata (Gilthead sea bream).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Percormorpha; Perciformes; Percoidae;
 OC Sparidae; Sparus.
 OC NCBI_TaxID=8175;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=99061849; PubMed=9843645;
 RA Holland M.C.H., Gethif Y., Meiri I., King J.A., Okuzawa K.,
 RA Elizar A., Zohar Y.,
 RT "Levels of the native forms of GnRH in the pituitary of the gilthead
 RT seabream, Sparus aurata, at several characteristic stages of the
 RT gonadal cycle.";
 RL Gen. Comp. Endocrinol. 112:394-405(1998).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC [1]
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 CC -----
 CC EMBL; U30311; AAA98845.1; -;
 CC InterPro; IPR002012; GNRH.
 CC Pfam; PF00446; GNRH; 1.
 CC PROSITE; PS00473; GNRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Signal; Pyrrolidone carboxylic acid.
 CC SIGNAL 1 23 BY SIMILARITY.
 CC CHAIN 24 90 PROGNADOLIBERIN III.
 CC PEPTIDE 24 33 GONADOLIBERIN III.
 CC PEPTIDE 37 82 GNRH-ASSOCIATED PEPTIDE III (POTENTIAL).
 CC MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
 (BY SIMILARITY).
 CC MOD_RES 33 33 AMIDATION (G-34, PROVIDE AMIDE GROUP).
 SQ SEQUENCE 90 AA; 10030 MW; FB4E47EB868C2FED CRC64;

Query Match 80.0%; Score 40; DB 1; Length 90;
 Best Local Similarity 60.0%; Pred. No. 0.39;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
 DB 24 QHWSYGLWPG 33

RESULT 46
 GON2_RANCA STANDARD; PRT; 93 AA.
 ID GON2_RANCA

Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
 DB 24 QHWSYGLWPG 33

RESULT 45
 GON8_RANDY STANDARD; PRT; 90 AA.
 ID GON8_RANDY
 AC Q9IAU2;
 DT 16-OCT-2001 (Rel. 40, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Trp-8 gonadoliberin precursor (Trp-8 gonadotropin-releasing hormone)
 DE ([Trp8]GNRH) (LH-RH) (Luliberin).
 OS Rana dybowskii (Dybowski's frog) (Korean brown frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Ranidae; Rana.
 OC NCBI_TaxID=71582;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=20477595; PubMed=11026571;
 RA Yoo M.S., Kang H.M., Choi H.S., Kim J.W., Troskie B.E., Millar R.P.,
 RA Kwon H.B.;
 RT "Molecular cloning, distribution and pharmacological characterization
 RT of a novel gonadotropin-releasing hormone (Trp8 GNRH) in frog brain.";
 RL Mol. Cell. Endocrinol. 164:197-204(2000).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: Expressed in forebrain but not in testis,
 CC ovary, kidney and liver.
 CC -!- SIMILARITY: Belongs to the GNRH family.
 CC [1]
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 CC -----
 CC EMBL; AF139911; AAF44343.1; -;
 CC InterPro; IPR002012; GNRH.
 CC InterPro; IPR004079; Gonadoliberin1.
 CC Pfam; PF00446; GNRH; 1.
 CC PRINTS; PR01541; GONADOLIBRN1.
 CC PROSITE; PS00473; GNRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 CC Pyroldone carboxylic acid.
 CC SIGNAL 1 24
 CC CHAIN 25 90 TRP-8 GONADOLIBERIN.
 CC PEPTIDE 25 34 TRP-8 GONADOLIBERIN.
 CC PEPTIDE 38 86 GNRH-ASSOCIATED PEPTIDE I.
 CC MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID (BY
 CC SIMILARITY).
 CC MOD_RES 34 34 AMIDATION (G-35 PROVIDE AMIDE GROUP) (BY
 CC SIMILARITY).
 SQ SEQUENCE 90 AA; 10368 MW; C3D573E7852ABFA CRC64;

Query Match 80.0%; Score 40; DB 1; Length 90;
 Best Local Similarity 60.0%; Pred. No. 0.39;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
 DB 25 QHWSYGLWPG 34

RESULT 46
 GON2_RANCA STANDARD; PRT; 93 AA.
 ID GON2_RANCA

Q9DG36; Q90Y64;
 DT 10-OCT-2003 (Rel. 42, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Progonadoliberein II precursor (Contains: Gonadoliberein II (LHRH II)
 DE (Luteinizing hormone releasing hormone II) (Gonadotropin releasing
 DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide II
 DE (GAP2)].
 DE GN2 OR GN2 II.
 GN Rana catesbeiana (Bull frog).
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Neobatrachia; Ranioidea; Rana.
 OX NCBI_TaxID=8400;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2), TISSUE SPECIFICITY, AND
 RP DEVELOPMENTAL STAGE.
 RP TISSUE=Hindbrain, and Midbrain;
 RP MEDLINE=21102951; PubMed=11170016;
 RA Wang L., Yoo M.S., Kang H.M., Im W.B., Choi H.S., Bogerd J.,
 RA Kwon H.B.;
 RA "Cloning and characterization of cDNAs encoding the GnRH1 and GnRH2
 RA precursors from bullfrog (Rana catesbeiana).";
 RL J. Exp. Zool. 289:190-201(2001).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
 CC similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=2;
 CC Name=1;
 CC IsoId=Q9DG36-1; Sequence=Displayed;
 CC Name=2;
 CC IsoId=Q9DG36-2; Sequence=VSP_050476;
 CC -!- TISSUE SPECIFICITY: Midbrain and hindbrain.
 CC -!- DEVELOPMENTAL STAGE: Expressed at significantly higher levels
 CC during hibernation and post-breeding. Not expressed in pituitary.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; AF192464; AAG21894.1; -;
 CC EMBL; AF186096; AAL05971.1; -;
 CC GO; GO:0005576; C:extracellular; NAS.
 CC GO; GO:0005183; F:luteinizing hormone-releasing factor activity; NAS.
 CC GO; GO:0009755; P:hormone mediated signaling; NAS.
 CC GO; GO:0000003; P:reproduction; NAS.
 CC InterPro; IPR002012; GnRH.
 CC Pfam; PF00446; GnRH; 1.
 CC PROSITE; PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 CC Alternative splicing; Pyrrolidone carboxylic acid.
 CC SIGNAL 1 24 POTENTIAL.
 CC CHAIN 25 93 PROGNADOLIBERIN II.
 CC PEPTIDE 25 34 GONADOLIBERIN II.
 CC PEPTIDE 38 93 GnRH-ASSOCIATED PEPTIDE II.
 CC MOD_RES 25 25 PYRROLIDONE CARBOXYLIC ACID (BY
 CC SIMILARITY).
 CC MOD_RES 34 34 AMIDATION (G-35 PROVIDE AMIDE GROUP) (BY
 CC SIMILARITY).
 CC VARSPLIC 75 82 Missing (in isoform 2).
 CC FTID=VSP_050476.
 CC SEQUENCE 93 AA; 10668 MW; B3DE9920DCF6EA9 CRC64;
 Query Match 80.0%; Score 40; DB 1; Length 93;
 Best Local Similarity 60.0%; Pred. No. 0.41;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKXPG 10

Db 25 QHWSHGWP 34
 RESULT 47
 ID GON3_CARAU STANDARD; PRT; 94 AA.
 AC P51917;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III)
 DE (GnRH-III) (LH-RH III) (Luliberin III).
 GN GN2.
 OS Carassius auratus (Goldfish).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
 OC Cyprinidae; Carassius.
 OX NCBI_TaxID=7957;
 RN [1]
 RP SEQUENCE FROM N.A.
 RP MEDLINE=96276584; PubMed=8729938;
 RA Lin X.-W., Peter R.E.;
 RA "Expression of salmon gonadotropin-releasing hormone (GnRH) and
 RA chicken GnRH-II precursor messenger ribonucleic acids in the brain
 RA and ovary of goldfish".
 RL Gen. Comp. Endocrinol. 101:282-296(1996).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; U30301; AAC59888.1; -;
 CC InterPro; IPR002012; GnRH.
 CC Pfam; PF00446; GnRH; 1.
 CC PROSITE; PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Signal; Pyrrolidone carboxylic acid.
 CC SIGNAL 1 23 BY SIMILARITY.
 CC CHAIN 24 94 PROGNADOLIBERIN III.
 CC PEPTIDE 24 33 GONADOLIBERIN III.
 CC PEPTIDE 37 94 GnRH-ASSOCIATED PEPTIDE III (POTENTIAL).
 CC MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
 CC (BY SIMILARITY).
 CC MOD_RES 33 33 AMIDATION (G-34 PROVIDE AMIDE GROUP).
 CC SEQUENCE 94 AA; 10511 MW; 14405ED82ECD2BEB CRC64;
 Query Match 80.0%; Score 40; DB 1; Length 94;
 Best Local Similarity 60.0%; Pred. No. 0.41;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHWXGXKXPG 10
 Db 24 QHWSYGLP 33
 RESULT 48
 ID GON3_RUTRU STANDARD; PRT; 94 AA.
 AC Q92106;
 DT 15-JUL-1998 (Rel. 36, Created)
 DT 15-JUL-1998 (Rel. 36, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Gonadoliberein III precursor (Gonadotropin-releasing hormone III)
 DE (GnRH-III) (LH-RH III) (Luliberin III).
 GN GN2.

OS Rutilus rutilus (Roach).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
 CC Cyprinidae; Rutilidae.
 OX NCBI_TaxID=48668;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=olfactory bulb;
 RX MEDLINE=98121386; PubMed=9460654;
 RA Penlington M.C., Williams M.A., Sumpter J.P., Rand-Weaver M.,
 RA Hooile D., Arme C.;
 RT "Isolation and characterisation of mRNA encoding the salmon- and
 RT chicken- II type gonadotropin-releasing hormones in the teleost fish
 RT Rutilus rutilus (Cyprinidae).";
 RL J. Mol. Endocrinol. 19:337-346(1997).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins (By
 CC similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; U60667; AAB65821.1; -
 CC InterPro; IPR002012; GnRH.
 CC Pfam; PF00446; GnRH; 1.
 CC PROSITE; PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Hypothalamus;
 CC Signal; Pyrrolidone carboxylic acid.
 CC SIGNAL 1 23 BY SIMILARITY.
 CC CHAIN 24 94 PROGONADOLIBERIN III.
 CC PEPTIDE 24 33 GONADOLIBERIN III.
 CC PEPTIDE 37 94 GnRH-ASSOCIATED PEPTIDE III (POTENTIAL).
 CC MOD_RES 24 24 PYRROLIDONE CARBOXYLIC ACID
 CC MOD_RES 33 33 (BY SIMILARITY).
 CC AMIDATION (G-34 PROVIDE AMIDE GROUP) (BY
 CC SIMILARITY).
 CC SEQUENCE 94 AA; 10683 MW; CB1ED215AA4DC4D CRC64;
 CC
 CC Query Match 80.0%; Score 40; DB 1; Length 94;
 CC Best Local Similarity 60.0%; Pred. No. 0.41;
 CC Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 CC
 CC QY 1 EHWXGXKXP 10
 CC :|||:|
 CC 24 QHWSYGLWP 33
 CC
 CC RESULT 49
 CC GON2_SUNMU STANDARD; PRY; 110 AA.
 CC AC 03766;
 CC DT 16-OCT-2001 (Rel. 40, Created)
 CC DT 16-OCT-2001 (Rel. 40, Last sequence update)
 CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
 CC DE Progonadoliberein II precursor [Contains: Gonadoliberein II (LH-RH II)
 CC DE (Luteinizing hormone-releasing hormone II) (Gonadotropin-releasing
 CC DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide II].
 CC GN GNRH2.
 CC Suncus murinus (House shrew) (Musk shrew).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Insectivora; Soricidae; Crocidurinae; Suncus.
 CC OX NCBI_TaxID=9378;
 CC RN [1]
 CC RP SEQUENCE FROM N.A.
 CC RC TISSUE=Brain;
 CC White R.B., Kasten T.L., White S.A., Rissman E.F., Fernald R.D.;
 CC "GnRH-II CDNA expression in the musk shrew.";
 CC

RL Submitted (NOV-1998) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones (By similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: MIDBRAIN.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC
 CC EMBL; AF107315; AAD09114.1; -
 CC InterPro; IPR002012; GnRH.
 CC Pfam; PF00446; GnRH; 1.
 CC PROSITE; PS00473; GnRH; 1.
 CC Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 CC Pyrrolidone carboxylic acid.
 CC SIGNAL 1 26 BY SIMILARITY.
 CC CHAIN 27 110 PROGONADOLIBERIN II.
 CC PEPTIDE 27 36 GONADOLIBERIN II.
 CC PEPTIDE 40 110 GnRH-ASSOCIATED PEPTIDE II.
 CC MOD_RES 27 27 PYRROLIDONE CARBOXYLIC ACID
 CC MOD_RES 36 36 (BY SIMILARITY).
 CC AMIDATION (G-37 PROVIDE AMIDE GROUP).
 CC SEQUENCE 110 AA; 12120 MW; AB986905FB83D9DB CRC84;
 CC
 CC Query Match 80.0%; Score 40; DB 1; Length 110;
 CC Best Local Similarity 60.0%; Pred. No. 0.48;
 CC Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 CC
 CC QY 1 EHWXGXKXP 10
 CC :|||:|
 CC 27 QHWSHGWP 36
 CC
 CC RESULT 50
 CC GON2_TUPGB STANDARD; PRY; 114 AA.
 CC AC Q95336;
 CC DT 15-DEC-1998 (Rel. 37, Created)
 CC DT 15-DEC-1998 (Rel. 37, Last sequence update)
 CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
 CC DE Progonadoliberein II precursor [Contains: Gonadoliberein II (LH-RH II)
 CC DE (Luteinizing hormone-releasing hormone II) (Gonadotropin-releasing
 CC DE hormone II) (GnRH II) (Luliberin II); GnRH-associated peptide II].
 CC GN GNRH2.
 CC Tupia glis belangeri (Common tree shrew).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Scandentia; Tupaiidae; Tupia.
 CC OX NCBI_TaxID=37347;
 CC RN [1]
 CC RP SEQUENCE FROM N.A.
 CC RC TISSUE=Hypothalamus;
 CC RX MEDLINE=97079639; PubMed=8921350;
 CC RA Kasten T.L., White S.A., Norton T.T., Bond C.T., Adelman J.P.,
 CC Fernald R.D.;
 CC "Characterization of two new preproGnRH mRNAs in the tree shrew:
 CC first direct evidence for mesencephalic GnRH gene expression in a
 CC placental mammal.";
 CC RL Gen. Comp. Endocrinol. 104:7-19(1996).
 CC -!- FUNCTION: Stimulates the secretion of gonadotropins; it stimulates
 CC the secretion of both luteinizing and follicle-stimulating
 CC hormones.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- TISSUE SPECIFICITY: MIDBRAIN.
 CC -!- SIMILARITY: Belongs to the GnRH family.
 CC
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 CC -----

DR EMBL: U63327; BAB16838.1; -;
 DR InterPro; IPR002012; GNRH.
 DR Pfam; PF00446; GNRH; 1.
 DR PROSITE; PS00473; GNRH; 1.
 KW Cleavage on pair of basic residues; Hormone; Amidation; Signal;
 KW Pyroglutamate carboxylic acid.
 FT SIGNAL 1 25 BY SIMILARITY.
 FT CHAIN 26 114 PROGNADOLIBERIN II.
 FT PEPTIDE 26 35 GONADOLIBERIN II.
 FT PEPTIDE 39 114 GNRH-ASSOCIATED PEPTIDE II.
 FT MOD_RES 26 26 PYRROLIDONE CARBOXYLIC ACID
 (BY SIMILARITY).
 FT MOD_RES 35 35 AMIDATION (G-36 PROVIDE AMIDE GROUP).
 SQ SEQUENCE 114 AA; 12123 MW; 680390E1C6869EC1 CRC64;

Query Match Score 40; DB 1; Length 114;
 Best Local Similarity 60.0%; Pred. No. 0.5;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXXPG 10
 :|||:
 Db 26 QHWSHGWWPG 35

Search completed: March 2, 2004, 19:26:23
 Job time : 18 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:19:03 ; Search time 36 Seconds
(without alignments)
87.644 Million cell updates/sec

Title: US-09-857-115-7

Perfect score: 50

Sequence: 1 EHWSGXPG 10

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 500 summaries

Database : SPRENBL_25.*

- 1: sp_archaea.*
- 2: sp_bacteria.*
- 3: sp_fungi.*
- 4: sp_human.*
- 5: sp_invertebrate.*
- 6: sp_mammal.*
- 7: sp_mnc.*
- 8: sp_organelle.*
- 9: sp_phage.*
- 10: sp_plant.*
- 11: sp_rodent.*
- 12: sp_virus.*
- 13: sp Vertebrate.*
- 14: sp Unclassified.*
- 15: sp_rvirus.*
- 16: sp_bacteriap.*
- 17: sp_archaeap.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	42	84.0	64	13	Q8JIF3
2	42	84.0	64	13	Q8JIF2
3	42	84.0	68	13	Q8JIF4
4	42	84.0	72	13	Q8JIFL2
5	42	84.0	86	13	Q8JH60
6	42	84.0	87	13	Q8JH26
7	42	84.0	94	13	Q8JFY3
8	42	84.0	96	13	Q8JH80
9	42	84.0	98	13	Q8JH5A5
10	42	84.0	120	13	Q7T059
11	42	84.0	219	5	Q86D90
12	42	84.0	219	5	Q86D89
13	41	82.0	91	13	Q9PRH0
14	40	80.0	33	13	Q9W7G0
15	40	80.0	33	13	Q9PT34
16	40	80.0	54	13	Q90W09

17	40	80.0	62	13	Q90ZE1
18	40	80.0	62	13	Q7T1L5
19	40	80.0	58	13	Q7T1L1
20	40	80.0	75	6	Q9TIV0
21	40	80.0	82	13	Q92094
22	40	80.0	82	13	Q90VY3
23	40	80.0	82	13	Q9W7G1
24	40	80.0	82	13	Q918P9
25	40	80.0	82	13	Q918Q0
26	40	80.0	85	13	Q8JH81
27	40	80.0	86	13	Q9ET25
28	40	80.0	86	13	Q9PW69
29	40	80.0	86	13	Q8QF08
30	40	80.0	86	13	Q8JUK5
31	40	80.0	86	13	Q8AW16
32	40	80.0	86	13	Q8JH11
33	40	80.0	86	13	Q7ZT17
34	40	80.0	87	13	Q9PRI3
35	40	80.0	88	13	Q9FSY9
36	40	80.0	90	13	Q8AWF6
37	40	80.0	90	13	Q8JH26
38	40	80.0	90	13	Q7ZT00
39	40	80.0	94	13	Q9DD08
40	40	80.0	94	13	Q9DEH5
41	40	80.0	94	13	Q8JUK6
42	40	80.0	94	13	Q9DEH6
43	40	80.0	94	13	Q8JHC3
44	40	80.0	94	13	Q804C1
45	40	80.0	94	13	Q801D6
46	40	80.0	94	13	Q801D5
47	40	80.0	107	6	Q9TSI3
48	40	80.0	114	5	Q97655
49	40	80.0	517	2	Q69212
50	40	80.0	909	16	Q87CV6
51	40	80.0	1000	16	Q9PCD0
52	39	78.0	404	16	Q7V6V9
53	39	78.0	789	11	Q7TTP13
54	37	74.0	350	10	Q81B58
55	37	74.0	350	10	Q82279
56	37	74.0	389	16	Q8FNL6
57	37	74.0	602	16	Q8G4B0
58	36	72.0	164	5	Q86D87
59	36	72.0	165	5	Q86D88
60	36	72.0	264	11	Q91VV7
61	36	72.0	264	11	Q8BK27
62	36	72.0	308	16	Q92J71
63	36	72.0	571	10	Q7Y1W6
64	36	72.0	828	10	Q9SZR5
65	36	72.0	1034	16	Q931E0
66	36	72.0	2491	12	Q7TF57
67	36	72.0	2497	12	Q8QX00
68	36	72.0	2503	12	Q99BU6
69	36	72.0	2503	12	Q91F54
70	35	70.0	122	11	Q8CBN5
71	35	70.0	122	11	Q8C582
72	35	70.0	142	6	Q86Z95
73	35	70.0	150	16	Q8EVI7
74	35	70.0	159	12	Q80MM6
75	35	70.0	267	6	Q9TV55
76	35	70.0	358	4	Q6T818
77	35	70.0	380	4	Q15885
78	35	70.0	532	5	Q44866
79	35	70.0	622	16	Q98BN6
80	35	70.0	626	3	Q99112
81	35	70.0	673	13	Q90VB3
82	35	70.0	818	4	Q9H6S2
83	35	70.0	865	2	Q8RQZ5
84	35	70.0	1072	16	Q9K6N1
85	35	70.0	2503	12	Q8B912
86	34.5	69.0	955	16	Q89VU0
87	34	68.0	165	4	Q8NF82
88	34	68.0	211	5	Q86PT6
89	34	68.0	245	11	Q8CEB6

Q90ZEL	oncorhynchu
Q7T1L5	odontesthes
Q7T1L1	odontesthes
Q8TIV0	trichosurus
Q92094	oncorhynchu
Q90VY3	oncorhynchu
Q9W7G1	oncorhynchu
Q918P9	oncorhynchu
Q918Q0	oncorhynchu
Q8JH81	verasper mo
Q9ET25	oncorhynchu
Q9PW69	typhonecte
Q8QF08	brachydanio
Q8JUK5	scleropages
Q8AW16	cyprinus ca
Q8JH11	brachydanio
Q7ZT17	cyprinus ca
Q9PRI3	anguilla ja
Q9FSY9	sparus aura
Q8AWF6	verasper mo
Q8JH26	oreochromis
Q7ZT00	oreochromis
Q9DD08	brachydanio
Q9DEH5	carassius a
Q8JUK6	scleropages
Q9DEH6	carassius a
Q8JHC3	cyprinus ca
Q804C1	cyprinus ca
Q801D6	cyprinus ca
Q801D5	cyprinus ca
Q9TSI3	macaca mula
Q97655	macaca mula
Q69212	actinosyne
Q87CV6	xytella fas
Q9PCD0	xytella fas
Q7V6V9	prochloroco
Q7TTP13	rattus norv
Q81B58	arabidopsis
Q82279	arabidopsis
Q8FNL6	corynebacte
Q8G4B0	bifidobacte
Q86D87	ciona intes
Q86D88	ciona intes
Q91VV7	mus musculu
Q8BK27	mus musculu
Q92J71	rhizobium m
Q7Y1W6	zea mays su
Q9SZR5	arabidopsis
Q931E0	rhizobium m
Q7TF57	porcine rep
Q8QX00	porcine rep
Q99BU6	porcine rep
Q91F54	porcine rep
Q8CBN5	mus musculu
Q8C582	mus musculu
Q86Z95	pos taurus
Q8EVI7	mycoplasma
Q80MM6	cytesia rub
Q9TV55	sus scrofa
Q8E18	homo sapien
Q15885	homo sapien
Q44866	caenorhabdi
Q98BN6	rhizobium 1
Q99112	utillago ma
Q90VB3	paralichthy
Q9H6S2	homo sapien
Q8RQZ5	aeromonas p
Q9K6N1	bacillus ha
Q8B912	porcine rep
Q89VU0	bradyrhizob
Q8NF82	homo sapien
Q86PT6	anopheles g
Q8CEB6	mus musculu

4	Q96RY6	292	Q96RY6 homo sapien	163	32	64.0	134	16	P1646	P1646 mycobacteri
300	12	Q89582	bovine herp	164	32	64.0	134	16	Q7TXU0	Q89582 mycobacteri
311	10	Q8W0H9	oryza sativ	165	32	64.0	144	11	Q8C6K5	Q8C6K5 mus musculi
316	11	Q99JN4	mus musculus	166	32	64.0	162	10	Q9C659	Q9C659 arabidopsis
316	11	Q8W8B2	cricetulus	167	32	64.0	166	17	Q9VCD6	Q9VCD6 aeropyrum p
316	11	Q8NKE3	penicillium	168	32	64.0	171	4	Q8WYT5	Q8WYT5 homo sapien
383	3	Q8NKE3	penicillium	168	32	64.0	171	4	Q8WYT5	Q8WYT5 homo sapien
495	5	Q45434	caenorhabdi	169	32	64.0	201	16	Q9ZMU4	Q9ZMU4 salmonella
497	16	Q9KBN0	bacillus ha	170	32	64.0	201	16	Q8FJG8	Q8FJG8 escherichia
500	10	Q84NQ1	oryza sativ	171	32	64.0	201	16	Q8XGS5	Q8XGS5 salmonella
508	4	Q8N3M5	homo sapien	172	32	64.0	207	16	Q8BBD5	Q8BBD5 pseudomonas
712	10	Q84Z17	oryza sativ	173	32	64.0	228	16	Q9X7X3	Q9X7X3 streptomyce
763	16	Q9WAP6	arabidopsis	174	32	64.0	230	9	Q9ZXB5	Q9ZXB5 bacterioph
870	16	Q9ZDC8	icketetia	175	32	64.0	263	13	Q9PT52	Q9PT52 agkistrodon
905	16	Q9PEK2	xylella fas	176	32	64.0	270	5	Q17228	Q17228 caenorhabdi
918	10	Q9PGN1	xylella fas	177	32	64.0	282	16	Q7HE01	Q7HE01 bordetella
923	16	Q8PKN1	pseudomonas	178	32	64.0	282	16	Q7W301	Q7W301 bordetella
967	16	Q8BDK1	pseudomonas	179	32	64.0	282	16	Q7VT07	Q7VT07 bordetella
967	16	Q87ET0	xylella fas	180	32	64.0	288	16	Q91312	Q91312 pseudomonas
968	16	Q87ET0	xylella fas	180	32	64.0	288	16	Q91312	Q91312 pseudomonas
1940	5	Q9VNV5	drosofila	181	32	64.0	295	5	Q9VIX0	Q9VIX0 drosofila
2502	12	Q99AV6	porcine rep	182	32	64.0	314	16	Q8EED0	Q8EED0 shewanella
2503	12	Q9EBN0	porcine rep	183	32	64.0	327	16	Q7U6V6	Q7U6V6 synechococc
2503	12	Q99136	porcine rep	184	32	64.0	349	6	Q8HYA8	Q8HYA8 pteropus hy
2503	12	Q9YN02	porcine rep	185	32	64.0	349	6	Q8HYA7	Q8HYA7 sacopteryx
2503	12	Q9WJB2	porcine rep	186	32	64.0	350	16	Q8P5F8	Q8P5F8 xanthomonas
2503	12	Q9ENK6	porcine rep	187	32	64.0	363	5	Q86548	Q86548 caenorhabdi
2503	12	Q89EX1	porcine rep	188	32	64.0	371	2	Q8KJD7	Q8KJD7 rhizobium l
2539	12	Q9J7C1	porcine rep	189	32	64.0	371	16	Q989W5	Q989W5 rhizobium l
3956	12	Q9DLN9	porcine rep	190	32	64.0	375	3	Q7Z8C2	Q7Z8C2 fusarium cu
3960	12	Q9DLN9	porcine rep	191	32	64.0	375	3	Q7Z8C2	Q7Z8C2 fusarium cu
3960	12	Q9DLN9	porcine rep	192	32	64.0	417	5	Q9TX12	Q9TX12 caenorhabdi
3960	12	Q9DLN9	porcine rep	193	32	64.0	422	16	Q7VG34	Q7VG34 helicobacte
75	16	Q8UK61	agrobacteri	194	32	64.0	434	16	Q8X608	Q8X608 escherichia
93	16	Q7U6Z8	synechococc	195	32	64.0	452	16	Q8ERP2	Q8ERP2 oceanobacil
117	16	Q8RYE8	anabaena sp	196	32	64.0	492	16	Q8ERP2	Q8ERP2 oceanobacil
161	2	Q93B64	escherichia	197	32	64.0	492	16	Q7U050	Q7U050 mycobacteri
189	16	Q8PNY7	xanthomonas	198	32	64.0	492	16	Q7U050	Q7U050 mycobacteri
189	16	Q8PC45	xanthomonas	199	32	64.0	499	16	Q7U050	Q7U050 mycobacteri
189	16	Q8YLS6	talstonia s	200	32	64.0	504	12	Q7HUSV2	Q7HUSV2 rhodopirell
197	16	Q8AJV0	rhizobium l	201	32	64.0	504	12	Q7HUSV2	Q7HUSV2 rhodopirell
219	5	Q9ACQ1	streptomyce	202	32	64.0	558	16	Q9KY53	Q9KY53 streptomyce
257	5	Q9VK60	drosofila	203	32	64.0	590	10	Q94DR9	Q94DR9 oryza sativ
284	16	Q6252	mycobacteri	204	32	64.0	640	16	Q88A28	Q88A28 pseudomonas
284	16	Q7W14	mycobacteri	205	32	64.0	718	5	Q9NEM5	Q9NEM5 caenorhabdi
312	16	Q8VJ08	mycobacteri	206	32	64.0	739	10	Q9SY32	Q9SY32 arabidopsis
316	16	Q8Q67	streptomyce	207	32	64.0	811	5	Q9SU94	Q9SU94 manestra co
316	16	Q8Q67	streptomyce	207	32	64.0	811	5	Q9SU94	Q9SU94 manestra co
335	16	Q9KZF0	streptomyce	208	32	64.0	862	2	Q9RQJ3	Q9RQJ3 aeromonas h
335	16	Q9KZF0	streptomyce	208	32	64.0	862	2	Q9RQJ3	Q9RQJ3 aeromonas h
348	10	Q8S651	oryza sativ	209	32	64.0	865	2	Q9F9Q8	Q9F9Q8 aeromonas p
350	16	Q8S651	oryza sativ	210	32	64.0	865	2	Q9F9Q8	Q9F9Q8 aeromonas p
367	16	Q8RYI4	vibrio para	211	32	64.0	866	2	Q8GH14	Q8GH14 aeromonas h
371	10	Q9LPP5	arabidopsis	212	32	64.0	866	2	Q8GH14	Q8GH14 aeromonas h
371	10	Q9CAE9	arabidopsis	213	32	64.0	866	2	Q8GH14	Q8GH14 aeromonas h
413	11	Q8C7Y7	mus musculu	214	32	64.0	866	2	Q8GH14	Q8GH14 aeromonas h
413	11	Q8C7Y7	mus musculu	214	32	64.0	866	2	Q8GH14	Q8GH14 aeromonas h
413	16	Q82C16	legionella	215	31.5	63.0	1819	10	Q84KP6	Q84KP6 cyanidiosch
423	2	Q8K712	legionella	216	31.5	63.0	1819	10	Q84KP6	Q84KP6 cyanidiosch
448	10	Q9LPS8	arabidopsis	217	31	62.0	8601	2	Q8GM87	Q8GM87 symbiont ba
466	13	Q88997	xenopus lae	218	31	62.0	8601	2	Q8GM87	Q8GM87 symbiont ba
466	13	Q88997	xenopus lae	218	31	62.0	8601	2	Q8GM87	Q8GM87 symbiont ba
466	13	Q88997	xenopus lae	218	31	62.0	8601	2	Q8GM87	Q8GM87 symbiont ba
492	13	Q8Q52	pseudomonas	219	31	62.0	1309	10	Q64428	Q64428 chlorella v
492	13	Q8Q52	pseudomonas	219	31	62.0	1309	10	Q64428	Q64428 chlorella v
509	16	Q9KZV2	streptomyce	220	31	62.0	130	16	Q7V6V2	Q7V6V2 prochloroco
510	12	Q89427	human papil	221	31	62.0	130	16	Q7V6V2	Q7V6V2 prochloroco
510	12	Q89427	human papil	221	31	62.0	130	16	Q7V6V2	Q7V6V2 prochloroco
510	12	Q89427	human papil	221	31	62.0	130	16	Q7V6V2	Q7V6V2 prochloroco
542	13	Q90Z66	smualus aca	222	31	62.0	134	10	Q945L5	Q945L5 arabidopsis
550	13	Q7P063	xenopus lae	223	31	62.0	134	10	Q945L5	Q945L5 arabidopsis
550	13	Q7P063	xenopus lae	223	31	62.0	134	10	Q945L5	Q945L5 arabidopsis
550	13	Q7P063	xenopus lae	223	31	62.0	134	10	Q945L5	Q945L5 arabidopsis
554	13	Q7P063	xenopus lae	224	31	62.0	156	1	Q9C4U4	Q9C4U4 uncultured
565	12	Q9DHD3	human papil	225	31	62.0	156	1	Q9C4U4	Q9C4U4 uncultured
565	12	Q9DHD3	human papil	225	31	62.0	156	1	Q9C4U4	Q9C4U4 uncultured
640	5	Q21284	caenorhabdi	226	31	62.0	157	16	Q929M8	Q929M8 listeria in
645	2	Q3PB22	streptomyce	227	31	62.0	157	16	Q929M8	Q929M8 listeria in
645	2	Q3PB22	streptomyce	227	31	62.0	157	16	Q929M8	Q929M8 listeria in
695	2	Q52B63	sodalis glo	228	31	62.0	157	16	Q929M8	Q929M8 listeria in
782	16	Q9AK68	streptomyce	229	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
782	16	Q9AK68	streptomyce	229	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
851	10	Q65384	arabidopsis	230	31	62.0	161	11	Q8C8T9	Q8C8T9 mus musculu
8										

236	31	62.0	228	11	O70153	O70153 rattus norv	309	31	62.0	740	11	Q8K3Y2	Q8K3Y2 mus musculu
237	31	62.0	242	16	Q9KEZ0	Q9kezo bacillus ha	310	31	62.0	742	11	Q8K4Q8	Q8K4q8 mus musculu
238	31	62.0	246	4	Q8U0U6	Q8u0u6 homo sapien	311	31	62.0	742	11	Q8VIF6	Q8vif6 mus musculu
239	31	62.0	246	5	Q8NA68	Q8na68 caenorhabdi	312	31	62.0	742	11	Q8C979	Q8c979 mus musculu
240	31	62.0	267	17	Q8ZMH9	Q8zwn9 pyrobaculum	313	31	62.0	760	10	Q84ZH6	Q84zh6 oryza sativ
241	31	62.0	274	16	Q7UG11	Q7ug11 rhodopirell	314	31	62.0	760	13	Q7Z2S2	Q7zzs2 brachydanio
242	31	62.0	277	5	Q8XWG0	Q8xwgo caenorhabdi	315	31	62.0	768	16	Q88988	Q88988 pseudomonas
243	31	62.0	285	17	Q8ZV76	Q8zvv6 pyrobaculum	316	31	62.0	802	16	Q8ZJVS	Q8zjvs salmonella
244	31	62.0	286	16	Q8RY13	Q8ryl9 deinococcus	317	31	62.0	811	4	Q96KJ4	Q96kja homo sapien
245	31	62.0	301	16	Q8A8W7	Q8a8w7 bacteroides	318	31	62.0	815	5	Q9V6T0	Q9v6t3 drosophila
246	31	62.0	304	16	Q880U4	Q880u4 pseudomonas	319	31	62.0	815	5	Q9V6T0	Q9v6t3 drosophila
247	31	62.0	307	16	Q92V04	Q92v04 rhizobium m	320	31	62.0	816	4	Q9UFT2	Q9ut2 homo sapien
248	31	62.0	314	6	Q8HYA2	Q8hya2 natalus mic	321	31	62.0	836	11	Q8BZ13	Q8bz13 mus musculu
249	31	62.0	314	6	Q8HYA1	Q8hya1 natalus str	322	31	62.0	837	16	Q8A1Z6	Q8a1z6 bacteroides
250	31	62.0	320	6	Q8HYA6	Q8hya6 tadarida br	323	31	62.0	846	4	Q8IVK0	Q8ivk0 homo sapien
251	31	62.0	323	6	Q8HY92	Q8hy92 kerivcula h	324	31	62.0	905	4	Q9BX64	Q9bx64 dictyostell
252	31	62.0	324	6	Q8HY93	Q8hy93 harpioceph	325	31	62.0	932	5	Q8GH43	Q8gh43 dictyostell
253	31	62.0	325	6	Q8HY94	Q8hy94 plecotus to	326	31	62.0	1004	4	Q9UHN7	Q9uhn7 homo sapien
254	31	62.0	334	5	Q84865	Q84865 caenorhabdi	327	31	62.0	1048	16	O05884	O05884 mycobacteri
255	31	62.0	334	6	Q8HYA3	Q8hya3 myzopoda au	328	31	62.0	1048	16	Q7TMX3	Q7tmx3 mycobacteri
256	31	62.0	334	6	Q8HYA0	Q8hya0 noctilio al	329	31	62.0	1049	4	O94957	O94957 homo sapien
257	31	62.0	334	6	Q8HY99	Q8hy99 noctilio le	330	31	62.0	1085	16	Q8VJ44	Q8vj44 mycobacteri
258	31	62.0	335	6	Q8HYA5	Q8hya5 mormoops me	331	31	62.0	1125	5	Q9WJX0	Q9w3x0 drosophila
259	31	62.0	343	5	Q8XWPS	Q8xwps caenorhabdi	332	31	62.0	1151	4	Q9BX65	Q9bx65 homo sapien
260	31	62.0	348	6	Q8HY97	Q8hy97 desmodus ro	333	31	62.0	1151	16	Q87YA1	Q87yal pseudomonas
261	31	62.0	349	6	Q8HY98	Q8hy98 centurio se	334	31	62.0	1159	16	Q88M79	Q88m79 pseudomonas
262	31	62.0	349	6	Q8HY96	Q8hy96 thyroptera	335	31	62.0	1159	16	Q82K57	Q82k57 streptomyce
263	31	62.0	349	6	Q8HY95	Q8hy95 thyroptera	336	31	62.0	1205	11	Q8KOP6	Q8kop6 mus musculu
264	31	62.0	360	3	Q9P964	Q9p964 penicillium	337	31	62.0	1238	11	Q8KOK6	Q8kok6 mus musculu
265	31	62.0	374	16	Q8ZLA7	Q8zla7 salmonella	338	31	62.0	1292	4	Q9BX66	Q9bx66 homo sapien
266	31	62.0	374	16	Q8Z2A0	Q8z2a0 salmonella	339	31	62.0	1310	4	Q8TEM3	Q8tem3 homo sapien
267	31	62.0	379	4	Q8AY25	Q8ay25 homo sapien	340	31	62.0	1329	11	Q91ZV8	Q91zv8 mus musculu
268	31	62.0	406	16	Q8ABG4	Q8abg4 bacteroides	341	31	62.0	1331	4	Q96PE1	Q96pe1 homo sapien
269	31	62.0	409	16	Q88G71	Q88g71 rhizobium l	342	31	62.0	1461	5	Q8MYA8	Q8mya8 caenorhabdi
270	31	62.0	412	16	Q89FT7	Q89ft7 bradyrhizob	343	31	62.0	1484	10	O82061	O82061 solanum tub
271	31	62.0	434	16	Q83IR8	Q83ir8 shigella fl	344	31	62.0	1484	10	Q9AWA5	Q9awa5 solanum tub
272	31	62.0	442	5	Q8T9S2	Q8t9s2 dermacentor	345	31	62.0	1682	16	Q7TYQ7	Q7tyq7 mycobacteri
273	31	62.0	443	16	Q8HT65	Q8ht65 pseudomonas	346	31	62.0	1787	16	O86329	O86329 mycobacteri
274	31	62.0	446	5	Q9V813	Q9v813 drosophila	347	31	62.0	2432	12	Q91QP4	Q91qp4 aichi virus
275	31	62.0	463	16	Q882V2	Q882v2 pseudomonas	348	31	62.0	2433	12	O91464	O91464 aichi virus
276	31	62.0	475	4	Q8WXW5	Q8wxw5 homo sapien	349	31	62.0	2433	12	O88ES6	O8bes6 bovine kobu
277	31	62.0	476	16	Q87836	Q87836 streptomyce	350	31	62.0	2511	11	O88AY4	O88ay4 mus musculu
278	31	62.0	486	3	Q870J2	Q870j2 emericella	351	31	62.0	536	17	Q8FXU7	Q8fxu7 methanosarc
279	31	62.0	486	16	Q7UGQ5	Q7ugq5 rhodopirell	352	30.5	61.0	574	4	O9NVB3	O9nv33 homo sapien
280	31	62.0	487	16	Q7VZ47	Q7vz47 bordetella	353	30.5	61.0	1110	17	Q9NVD2	Q9ntd2 homo sapien
281	31	62.0	493	4	Q7S952	Q7s952 homo sapien	354	30.5	61.0	1185	4	Q9NTD2	Q9ntd2 homo sapien
282	31	62.0	495	16	Q7WKJ9	Q7wkj9 bordetella	355	30.5	61.0	1329	4	Q86VY3	Q86vy3 homo sapien
283	31	62.0	495	16	Q7W954	Q7w954 bordetella	356	30.5	61.0	1598	4	O9P214	O9p214 homo sapien
284	31	62.0	503	12	Q9IR52	Q9ir52 human papil	357	30	60.0	57	16	Q8VXH7	Q8vkh7 mycobacteri
285	31	62.0	503	12	Q993Z3	Q993z3 human papil	358	30	60.0	64	11	O91V56	O91v56 mus musculu
286	31	62.0	509	16	Q8PFD2	Q8pfd2 xanthomonas	359	30	60.0	67	10	O9FUF9	O9fuf9 lotus corni
287	31	62.0	510	2	Q8XL41	Q8xl41 rhizobium e	360	30	60.0	75	16	Q7UIM7	Q7uim7 mycobacteri
288	31	62.0	520	16	Q8P3V3	Q8p3v3 xanthomonas	361	30	60.0	95	16	Q911X2	Q911x2 pseudomonas
289	31	62.0	525	16	O05685	O05685 mycobacteri	362	30	60.0	101	8	O79746	O79746 omanosaura
290	31	62.0	525	16	Q7U4V9	Q7u4v9 synechococc	363	30	60.0	101	8	O79746	O79746 omanosaura
291	31	62.0	534	16	Q985H5	Q985h5 rhizobium l	364	30	60.0	129	10	Q8S6K5	Q8s6k5 oryza sativ
292	31	62.0	557	16	Q9K5W6	Q9k5w6 bacillus ha	365	30	60.0	129	10	Q7XF74	Q7xf74 oryza sativ
293	31	62.0	584	16	Q98NT7	Q98nt7 rhizobium l	366	30	60.0	129	17	O9ICE5	O9ice5 aeropyrum p
294	31	62.0	589	16	Q7UV98	Q7uv98 rhodopirell	367	30	60.0	130	16	Q8ZN98	Q8zn98 salmonella
295	31	62.0	599	2	Q8LOX1	Q8lox1 acinetobact	368	30	60.0	130	16	O824X2	O824x2 salmonella
296	31	62.0	601	16	Q91612	Q91612 pseudomonas	369	30	60.0	140	16	O825Z7	O825z7 salmonella
297	31	62.0	601	16	Q88QW6	Q88qw6 pseudomonas	370	30	60.0	140	16	O831Q4	O831q4 shigella fl
298	31	62.0	601	16	Q88A92	Q88a92 pseudomonas	371	30	60.0	141	6	O8WMI7	O8wmi7 macaca mula
299	31	62.0	638	16	Q83F61	Q83f61 coxiella bu	372	30	60.0	144	12	O8J5K9	O8jek9 chimpanzee
300	31	62.0	659	16	Q98N00	Q98n00 rhizobium l	373	30	60.0	146	16	Q8EJ15	Q8ej15 shewanella
301	31	62.0	674	16	Q82LD0	Q82ld0 streptomyce	374	30	60.0	148	2	Q8KQ73	Q8kq3 xanthomonas
302	31	62.0	684	11	Q92338	Q92338 homo sapien	375	30	60.0	152	9	O854J3	O854j3 mycobacteri
303	31	62.0	684	11	Q62417	Q62417 mus musculu	376	30	60.0	155	13	O90WP5	O90wp5 tetraodon n
304	31	62.0	695	11	Q921F8	Q921f8 mus musculu	377	30	60.0	155	13	O82ZJ7	O82zj7 enterococcu
305	31	62.0	698	10	Q84S63	Q84s63 oryza sativ	378	30	60.0	157	3	O96X41	O96x41 coccidioid
306	31	62.0	711	10	Q84S65	Q84s65 oryza sativ	379	30	60.0	161	10	O4ZUG1	O4zug1 arabidopsis
307	31	62.0	714	11	Q920Z8	Q920z8 mus musculu	380	30	60.0	164	5	O44933	O4493 caenorhabdi
308	31	62.0	724	11	Q920Z9	Q920z9 mus musculu	381	30	60.0	170	5	Q8ML87	Q8ml87 drosophila
										172	2	Q9AL97	Q9al97 streptomyce

309	31	62.0	740	11	Q8K3Y2	Q8K3Y2 mus musculu
310	31	62.0	742	11	Q8K4Q8	Q8K4q8 mus musculu
311	31	62.0	742	11	Q8VIF6	Q8vif6 mus musculu
312	31	62.0	742	11	Q8C979	Q8c979 mus musculu
313	31	62.0	760	10	Q84ZH6	Q84zh6 oryza sativ
314	31	62.0	760	13	Q7Z2S2	Q7zzs2 brachydanio
315	31	62.0	768	16	Q88988	Q88988 pseudomonas
316	31	62.0	802	16	Q8ZJVS	Q8zjvs salmonella
317	31	62.0	811	4	Q96KJ4	Q96kja homo sapien
318	31	62.0	815	4	Q9P3Q0	Q9p3q0 homo sapien
319	31	62.0	815	5	Q9V6T3	Q9v6t3 drosophila
320	31	62.0	816	4	Q9UFT2	Q9ut2 homo sapien
321	31	62.0	836	11	Q8BZ13	Q8bz13 mus musculu
322	31	62.0	837	16	Q8A1Z6	Q8a1z6 bacteroides
323	31	62.0	846	4	Q8IVK0	Q8ivk0 homo sapien
324	31	62.0	905	4	Q9BX64	Q9bx64 homo sapien
325	31	62.0	932	5	Q8GH43	Q8gh43 dictyostell
326	31	62.0	1004	4	Q9UHN7	Q9uhn7 homo sapien
327	31	62.0	1048	16	O05884	O05884 mycobacteri
328	31	62.0	1048	16	Q7TMX3	Q7tmx3 mycobacteri
329	31	62.0	1049	4	Q94957	Q94957 homo sapien
330	31	62.0	1065	16	Q8VJ74	Q8vj74 mycobacteri
331	31	62.0	1125	5	Q9B3X0	Q9b3x0 drosophila
332	31	62.0	1151	4	Q9B3X5	Q9b3x5 homo sapien
333	31	62.0	1157	16	Q8M7A1	Q8m7a1 pseudomonas
334	31	62.0	1159	16	Q8M7A9	Q8m7a9 pseudomonas
335	31	62.0	1199	16	Q8K5P6	Q8k5p6 streptomyce
336	31	62.0	1205	11	Q8K0P6	Q8k0p6 mus musculu
337	31	62.0	1238	11	Q8K0K6	Q8k0k6 mus musculu
338	31	62.0	1292	4	Q9BX66	Q9bx66 homo sapien
339	31	62.0	1310	4	Q8TEM3	Q8tem3 homo sapien
340	31	62.0	1329	11	Q91ZV8	Q91zv8 mus musculu
341	31	62.0	1331	4	Q96PE1	Q96pel homo sapien
342	31	62.0	1461	5	Q8M7A8	Q8m7a8 caenorhabdi
343	31	62.0	1464	10	O82061	O82061 solanum tub
344	31	62.0	1464	10	Q9AWA5	Q9awa5 solanum tub
345	31	62.0	1682	16	Q7TYQ7	Q7tyq7 mycobacteri
346	31	62.0	1787	16	O86329	O86329 mycobacteri
347	31	62.0	2432	12	Q91QP4	Q91qp4 aichi virus
348	31	62.0	2433	12	Q91464	Q91464 aichi virus
349	31	62.0	2463	12	Q8BS56	Q8bes6 bovine kobu
350	31	62.0	2571	11	Q8R4Y4	Q8r4y4 mus musculu
351	31	61.0	536	17	Q8PXU7	Q8pxu7 methanosarc
352	30.5	61.0	574	4	Q9NVB3	Q9nvb3 homo sapien
353	30.5	61.0	574	4	Q9NVB3	Q9nvb3 homo sapien
354	30.5	61.0	1110	17	O8PXT0	O8pxt0 methanosarc
355	30.5	61.0	1185	4	Q9NTD2	Q9ntd2 homo sapien
356	30.5	61.0	1329	4	O86VY3	O86vy3 homo sapien
357	30.5	61.0	1598	4	Q9P214	Q9p214 homo sapien
358	30	60.0	57	16	Q8VKH7	Q8vkh7 mycobacteri
359	30	60.0	64	11	Q91V56	Q91v56 mus musculu
360	30	60.0	67	10	Q9FUF9	Q9fuf9 lotus corni
361	30	60.0	75	16	Q7U1M7	Q7u1m7 mycobacteri
362	30	60.0	95	16	Q911X2	Q911x2 pseudomonas
363	30	60.0	101	8	O79746	O79746 omanosaura
364	30	60.0	129	10	O8S6K5	O8s6k5 oryza sativ
365	30	60.0	129	10	Q7X974	Q7x974 oryza sativ
366	30	60.0	129	17	Q9YCE5	Q9yce5 aetopyrum p
367	30	60.0	130	16	O8ZNX8	O8zxn8 salmonella
368	30	60.0	130	16	O8Z4X2	O8z4x2 salmonella
369	30	60.0	140	16	O8Z5Z7	O8z5z7 salmonella
370	30	60.0	140	16	Q83LQ4	Q83lq4 shigella fl
371	30	60.0	141	6	Q8W1I7	Q8w1i7 macaca mula
372	30	60.0	144	12	O8J5K9	O8jak9 chimpanzee
373	30	60.0	146	16	O8EJ15	O8ej15 shewanella
374	30	60.0	148	2	Q8KQ73	Q8kq73 xanthomonas
375	30	60.0	152	9	O854J3	O854j3 mycobacteri
376	30	60.0	155	13	O90WP5	O90wp5 tetraodon r
377	30	60.0	156	16	O8Z2J7	O8z2j7 enterococcu
378	30	60.0	157	3	Q96X41	Q96x41 coccidioid
379	30	60.0	161	1	O9ZUG1	O9zug1 arabidopsis
380	30	60.0	164	5	O44493	O44493 caenorhabdi
381	30	60.0	170	5	Q8ML87	Q8ml87 drosophila
382	30	60.0	172	2	Q9AL97	Q9al97 streptomyce

382	30	60.0	173	8	Q9XNL5	Q9xnl5 balearica p	455	30	60.0	360	16	Q7U2S3	Q7u2s3 mycobacteri
383	30	60.0	173	8	Q9XNL4	Q9xnl4 balearica r	456	30	60.0	361	16	Q98FS8	Q98fs8 rhizobium l
384	30	60.0	173	8	Q9VD02	Q9vd02 drosophila	457	30	60.0	362	13	Q9W617	Q9w617 brachydanio
385	30	60.0	180	4	Q8N7E7	Q8n7e7 homo sapien	458	30	60.0	364	16	Q7WCD4	Q7wcd4 bordetella
386	30	60.0	193	4	Q8NHX5	Q8nhx5 homo sapien	459	30	60.0	364	16	Q7VRS5	Q7vrs5 bordetella
387	30	60.0	196	16	Q9HX71	Q9hx71 pseudomonas	460	30	60.0	368	5	Q9ULR7	Q9ulr7 caenorhabdi
388	30	60.0	205	10	Q9AWR9	Q9awr9 oryza sativ	461	30	60.0	370	2	Q9L4G7	Q9l4g7 streptococc
389	30	60.0	212	10	Q8W236	Q8w236 triticum ae	462	30	60.0	374	5	Q9X113	Q9x113 caenorhabdi
390	30	60.0	213	16	Q9Z3F1	Q9z3f1 chlamydia p	463	30	60.0	378	16	Q87DL4	Q87dl4 xylella fas
391	30	60.0	219	16	Q99QB5	Q99qb5 streptomyce	464	30	60.0	383	10	Q82091	Q82091 ceratopteri
392	30	60.0	221	10	Q8S4P8	Q8s4p8 hordeum vul	465	30	60.0	391	16	Q8U6J2	Q8u6j2 agrobacteri
393	30	60.0	221	17	Q973N3	Q973n3 sulfobolus	466	30	60.0	392	16	Q89JD0	Q89jd0 bradyrhizob
394	30	60.0	223	2	Q8GHE6	Q8ghe6 salmonella	467	30	60.0	396	16	Q8AZS1	Q8azs1 bacteroides
395	30	60.0	223	16	Q8ZLZ0	Q8zlz0 salmonella	468	30	60.0	396	16	Q88GK0	Q88gk0 pseudomonas
396	30	60.0	223	16	Q8Z3N5	Q8z3n5 salmonella	469	30	60.0	397	5	O17774	O17774 caenorhabdi
397	30	60.0	224	16	Q8ZF39	Q8zf39 streptomyce	470	30	60.0	410	16	Q7WQ68	Q7wq68 bordetella
398	30	60.0	225	16	Q8KE05	Q8ke05 chlorobium	471	30	60.0	410	16	Q7WC64	Q7wc64 bordetella
399	30	60.0	225	5	Q9XUH9	Q9xuh9 caenorhabdi	472	30	60.0	410	16	Q7VSI3	Q7vsi3 bordetella
400	30	60.0	227	10	Q42423	Q42423 arabidopsis	473	30	60.0	414	16	Q8D747	Q8d747 vibrio vuln
401	30	60.0	227	10	Q96289	Q96289 arabidopsis	474	30	60.0	415	10	Q84VX7	Q84vx7 arabidopsis
402	30	60.0	235	16	Q8G548	Q8g548 bifidobacter	475	30	60.0	421	16	Q88M85	Q88m85 pseudomonas
403	30	60.0	235	16	Q89GP3	Q89gp3 bradyrhizob	476	30	60.0	422	16	Q888X1	Q888x1 pseudomonas
404	30	60.0	236	10	Q9FTR4	Q9ftr4 arabidopsis	477	30	60.0	423	16	Q894I8	Q894i8 clostridium
405	30	60.0	256	2	Q9WMD3	Q9wmd3 agrobacteri	478	30	60.0	425	5	Q9U9U4	Q9u9u4 drosophila
406	30	60.0	256	11	Q8VCY0	Q8vcy0 mus musculu	479	30	60.0	427	5	Q9NG48	Q9ng48 apis mellif
407	30	60.0	259	13	Q8AXR4	Q8axr4 brachydanio	480	30	60.0	432	3	Q875E1	Q875e1 podospira a
408	30	60.0	260	12	Q8JL15	Q8jl15 virus phich	481	30	60.0	437	16	Q8EZI0	Q8ezi0 leptospira
409	30	60.0	263	2	Q8VPD5	Q8vpd5 agrobacteri	482	30	60.0	449	16	Q93LK3	Q93lk3 enterococcu
410	30	60.0	263	16	Q8UKH0	Q8ukh0 agrobacteri	483	30	60.0	453	10	Q84RN6	Q84rn6 oryza sativ
411	30	60.0	265	10	Q9SFY6	Q9sfy6 arabidopsis	484	30	60.0	453	10	Q7XUF9	Q7xuf9 oryza sativ
412	30	60.0	267	12	Q8B3Y0	Q8b3y0 porcine lym	485	30	60.0	453	16	Q880I5	Q880i5 pseudomonas
413	30	60.0	270	10	Q8W597	Q8w597 secale cere	486	30	60.0	453	16	Q7UKA1	Q7uka1 rhodopirell
414	30	60.0	275	13	Q8AY14	Q8ay14 tetraodon n	487	30	60.0	463	12	Q85231	Q85231 potato mop-
415	30	60.0	276	13	Q8AWH7	Q8awh7 tetraodon n	488	30	60.0	473	16	Q7UQJ9	Q7uqj9 rhodopirell
416	30	60.0	284	16	Q82NR2	Q82nr2 streptomyce	489	30	60.0	478	16	Q7VQ30	Q7vq30 prochloroco
417	30	60.0	284	2	Q84CG3	Q84cg3 streptomyce	490	30	60.0	482	11	Q8BY42	Q8by42 mus musculu
418	30	60.0	288	10	Q8W0T7	Q8w0t7 sorghum bic	491	30	60.0	485	16	Q9RVV5	Q9rvv5 deinococcus
419	30	60.0	288	16	Q8HWI1	Q8hwi1 pseudomonas	492	30	60.0	500	10	Q8RZJ9	Q8rzj9 oryza sativ
420	30	60.0	291	16	Q8DHV7	Q8dhv7 synchococc	493	30	60.0	503	12	Q9WNN4	Q9wnn4 human papil
421	30	60.0	294	4	Q8WU03	Q8wu03 homo sapien	494	30	60.0	505	12	Q8JN95	Q8jns9 human papil
422	30	60.0	294	4	Q96AT2	Q96at2 homo sapien	495	30	60.0	505	12	Q9IXU1	Q9ixdi human papil
423	30	60.0	294	4	Q86WC3	Q86wc3 homo sapien	496	30	60.0	506	12	Q82004	Q82004 human papil
424	30	60.0	298	10	Q84R68	Q84r68 oryza sativ	497	30	60.0	507	10	Q852H9	Q852h9 oryza sativ
425	30	60.0	301	10	Q9FK61	Q9fk61 arabidopsis	498	30	60.0	508	12	Q81971	Q81971 human papil
426	30	60.0	301	16	Q7W1H8	Q7w1h8 bordetella	499	30	60.0	512	16	Q82VM0	Q82vm0 nitrosomona
427	30	60.0	302	5	P91541	P91541 caenorhabdi	500	30	60.0				
428	30	60.0	302	16	Q7WPE8	Q7wp8 bordetella							
429	30	60.0	306	16	Q9HX77	Q9hx77 pseudomonas							
430	30	60.0	314	3	Q96UH3	Q96uh3 coccidioid							
431	30	60.0	319	5	Q9N3J6	Q9n3j6 caenorhabdi							
432	30	60.0	322	2	Q8LOF7	Q8lof7 gamma-prote							
433	30	60.0	322	5	Q9N3U7	Q9n3j7 caenorhabdi							
434	30	60.0	329	2	Q8KZX6	Q8kzx6 gamma-prote							
435	30	60.0	329	16	Q88ZX7	Q88zx7 lactobacill							
436	30	60.0	329	17	Q8TRF1	Q8trf1 methanosarc							
437	30	60.0	332	2	Q8LOA3	Q8loa3 gamma-prote							
438	30	60.0	332	16	Q89CH1	Q89ch1 bradyrhizob							
439	30	60.0	339	16	Q9HWM1	Q9hwm1 pseudomonas							
440	30	60.0	340	16	Q9HWM1	Q9hwm1 pseudomonas							
441	30	60.0	343	4	Q8NF21	Q8nf21 homo sapien							
442	30	60.0	344	16	Q92MS8	Q92ms8 rhizobium m							
443	30	60.0	348	16	Q8UDU7	Q8udu7 agrobacteri							
444	30	60.0	352	2	Q9AHQ8	Q9ahq8 gamma-prote							
445	30	60.0	352	2	Q8XHW7	Q8xhw7 gamma-prote							
446	30	60.0	352	2	Q8KZW3	Q8kzw3 gamma-prote							
447	30	60.0	352	2	Q8LC75	Q8l075 gamma-prote							
448	30	60.0	352	2	Q8LO08	Q8l008 gamma-prote							
449	30	60.0	352	2	Q8LOL3	Q8l0l3 gamma-prote							
450	30	60.0	352	2	Q8LOB7	Q8lob7 gamma-prote							
451	30	60.0	352	2	Q8LO43	Q8lo43 gamma-prote							
452	30	60.0	352	2	Q8LOK3	Q8lok3 gamma-prote							
453	30	60.0	354	16	Q8NM26	Q8nm26 corynebacte							
454	30	60.0	357	16	Q7WQD9	Q7wqd9 bordetella							
	30	60.0	360	16	P96809	P96809 mycobacteri							

ALIGNMENTS

RESULT 1

ID	Q8JIF3	PRELIMINARY;	PRT;	64 AA.
AC	Q8JIF3			
DT	01-OCT-2002 (TEMBLrel. 22, Created)			
DT	01-OCT-2002 (TEMBLrel. 22, Last sequence update)			
DT	01-JUN-2003 (TEMBLrel. 24, Last annotation update)			
DE	Gonadotropin-releasing hormone (Fragment).			
OS	Dentex dentex.			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;			
OC	Acanthomorpha; Acanthopterygii; Perciformes; Percoidae;			
OC	Sparidae; Dentex.			
CX	NCBI_TaxID=94951;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RA	Kato M., Elmesiry G.E.;			
RT	"Sequence comparison of GnRH genes in closely-related Sparidae			
RT	fishes.";			
RL	Submitted (AUG-2002) to the EMBL/GenBank/DBJ databases.			
DR	EMBL; AB089313; BAC07229.1; -			
DR	GO; GO:0005576; C:extracellular; IEA.			

DR GO:0005183; F:lutinizing hormone-releasing factor activity; IEA.
 DR GO:0007275; P:development; IEA.
 DR InterPro: IPR002012; GNRH.
 DR InterPro: IPR004079; GonadoliberinI.
 DR Pfam: PF00446; GNRH; 1.
 DR PRINTS: PR01541; GONADOLIBRNI.
 DR PROSITE: PS00473; GNRH; 1.
 FT NON_TER 1
 FT NON_TER 64
 SQ SEQUENCE 64 AA; 7028 MW; 1F91FFFB2B4BB6D0 CRC64;

Query Match 84.0%; Score 42; DB 13; Length 64;
 Best Local Similarity 60.0%; Pred. No. 1.1; Mismatches 3; Indels 0; Gaps 0;
 Matches 6; Conservative 1;

QY 1 EHWXGXKPG 10
 :|||:|
 Db 15 QHWSYGLSPG 24

RESULT 2
 Q8JIF2 PRELIMINARY; PRT; 64 AA.
 AC Q8JIF2
 DT 01-OCT-2002 (TREMBlrel. 22, Created)
 DT 01-OCT-2002 (TREMBlrel. 24, Last annotation update)
 DE Gonadotropin-releasing hormone (Fragment).
 OS Pagrus major (Red sea bream) (Chrysophrys major).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
 OC Sparidae; Pagrus;
 OX NCBI_TaxID=143350;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Kato M., Elmesiry G.E.;
 RT "Sequence comparison of GnRH genes in closely-related Sparidae fishes";
 RL Submitted (AUG-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AB089314; BAC07230.1; -.
 DR GO:0005576; C:extracellular; IEA.
 DR GO:0005183; F:lutinizing hormone-releasing factor activity; IEA.
 DR GO:0007275; P:development; IEA.
 DR InterPro: IPR002012; GNRH.
 DR InterPro: IPR004079; GonadoliberinI.
 DR Pfam: PF00446; GNRH; 1.
 DR PRINTS: PR01541; GONADOLIBRNI.
 DR PROSITE: PS00473; GNRH; 1.
 FT NON_TER 1
 FT NON_TER 64
 SQ SEQUENCE 64 AA; 6967 MW; 119F0D0CD14BB6D0 CRC64;

Query Match 84.0%; Score 42; DB 13; Length 64;
 Best Local Similarity 60.0%; Pred. No. 1.1; Mismatches 3; Indels 0; Gaps 0;
 Matches 6; Conservative 1;

QY 1 EHWXGXKPG 10
 :|||:|
 Db 15 QHWSYGLSPG 24

RESULT 3
 Q8JIF4 PRELIMINARY; PRT; 68 AA.
 AC Q8JIF4
 DT 01-OCT-2002 (TREMBlrel. 22, Created)
 DT 01-OCT-2002 (TREMBlrel. 22, Last annotation update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
 DE Gonadotropin-releasing hormone (Fragment).
 OS Acanthopagrus latus (Yellowfin porgy).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;

OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
 OC Sparidae; Acanthopagrus.
 OX NCBI_TaxID=8177;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Kato M., Elmesiry G.E.;
 RT "Sequence comparison of GnRH genes in closely-related Sparidae fishes";
 RL Submitted (AUG-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AB089312; BAC07228.1; -.
 DR GO:0005576; C:extracellular; IEA.
 DR GO:0005183; F:lutinizing hormone-releasing factor activity; IEA.
 DR GO:0007275; P:development; IEA.
 DR InterPro: IPR002012; GNRH.
 DR InterPro: IPR004079; GonadoliberinI.
 DR Pfam: PF00446; GNRH; 1.
 DR PRINTS: PR01541; GONADOLIBRNI.
 DR PROSITE: PS00473; GNRH; 1.
 FT NON_TER 1
 FT NON_TER 68
 SQ SEQUENCE 68 AA; 7543 MW; 067708609FE8E771 CRC64;

Query Match 84.0%; Score 42; DB 13; Length 68;
 Best Local Similarity 60.0%; Pred. No. 1.2; Mismatches 3; Indels 0; Gaps 0;
 Matches 6; Conservative 1;

QY 1 EHWXGXKPG 10
 :|||:|
 Db 19 QHWSYGLSPG 28

RESULT 4
 Q7TIL2 PRELIMINARY; PRT; 72 AA.
 AC Q7TIL2
 DT 01-OCT-2003 (TREMBlrel. 25, Created)
 DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
 DE Gonadotropin-releasing hormone (Fragment).
 OS Odontesthes bonariensis.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
 OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
 OC Atheriniformes; Atherinoidae; Atherinidae; Atherinopsinae;
 OC Odontesthes.
 OX NCBI_TaxID=219752;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Tissue-Brain;
 RA Guilgur I.G., Miranda I.A., Somoza G.M.;
 RT "Characterization of three GnRH cDNA sequences in the pejerrey fish Odontesthes bonariensis";
 RL Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AY320285; AAP84607.1; -.
 FT NON_TER 1
 FT NON_TER 72
 SQ SEQUENCE 72 AA; 8064 MW; 0FAACA4E2AB792BF CRC64;

Query Match 84.0%; Score 42; DB 13; Length 72;
 Best Local Similarity 60.0%; Pred. No. 1.2; Mismatches 3; Indels 0; Gaps 0;
 Matches 6; Conservative 1;

QY 1 EHWXGXKPG 10
 :|||:|
 Db 1 QHWSYGLSPG 10

RESULT 5
 Q8JH60 PRELIMINARY; PRT; 86 AA.
 ID Q8JH60
 AC Q8JH60
 DT 01-OCT-2002 (TREMBlrel. 22, Created)
 DT 01-OCT-2002 (TREMBlrel. 22, Last annotation update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)

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DE Gonadotropin-releasing hormone.
OS Alosa sapidissima (American shad).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Clupeomorpha; Clupeidae;
OC Alosa.
OX NCBI_TaxID=34773;
RN [1]
RP SEQUENCE FROM N.A.
RA Abraham E., Gohlif Y., Zohar Y.;
RT "American shad (Alosa sapidissima) hrGnRH sequence."
RL Submitted (AUG-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF536381; AAN04492.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; P:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
SQ SEQUENCE 86 AA; 9554 MW; 9E4921F3CF23350E3 CRC64;

Query Match 84.0%; Score 42; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 1.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
Db 23 QHWSGLSPG 32

RESULT 6
Q9YI26 PRELIMINARY; PRT; 87 AA.
ID AC Q9YI26;
DT 01-MAY-1999 (TrEMBLrel. 10, Created).
DT 01-MAY-1999 (TrEMBLrel. 10, Last sequence update).
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update).
DE SbgRH (Gonadoliberin) (Gonadotropin-releasing hormone) (LH-RH)
(Luliberin) (Fragment).
OS Sparus aurata (Gilthead sea bream).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidae;
OC Sparidae; Sparus.
OX NCBI_TaxID=8175;
RN [1]
RP SEQUENCE FROM N.A.
RA Nabissi M.;
RT TISSUE=Ovary;
RL Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GnRH FAMILY.
DR EMBL; AF046801; AAD02427.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; GonadoliberinI.
DR PRINTS; PR01541; GONADOLIBRNI.
DR PROSITE; PS00473; GnRH; 1.
KW Amidation; Hormone.
FT NON_TER 1
FT NON_TER 87
SQ SEQUENCE 87 AA; 9871 MW; 0D246353D96782A CRC64;

Query Match 84.0%; Score 42; DB 13; Length 87;
Best Local Similarity 60.0%; Pred. No. 1.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
Db 21 QHWSGLSPG 30

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RESULT 7
Q8JFY3 PRELIMINARY; PRT; 94 AA.
ID AC Q8JFY3;
DT 01-OCT-2002 (TrEMBLrel. 22, Created).
DT 01-OCT-2002 (TrEMBLrel. 22, Last sequence update).
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update).
DE GnrH1 preprohormone precursor (Seabream-type gonadotropin-releasing
hormone precursor).
GN GNRH1.
OS Oreochromis niloticus (Nile tilapia) (Tilapia nilotica).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidae;
OC Cichlidae; Oreochromis.
OX NCBI_TaxID=8128;
RN [1]
RP SEQUENCE FROM N.A.
RA Farahmand H., Rahman M.A., Sohm F., Hwang G.-L., Maclean N.;
RT "Isolation and Expression of Tilapia (Oreochromis niloticus) Serine 8
Type GnRH Coding and Regulatory Sequences."
RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RA Sato H., Sakuma Y., Parthar I.S.;
RT "Molecular cloning of three kinds of GnRH genes and 5' untranslated
regions in tilapia (Oreochromis niloticus)."
RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF467291; AAM90220.1; -.
DR EMBL; AB104861; BAC65154.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; GonadoliberinI.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBRNI.
DR PROSITE; PS00473; GnRH; 1.
KW SIGNAL.
FT CHAIN 1 22
FT CHAIN 23 32
FT CHAIN 36 94
SQ SEQUENCE 94 AA; 10396 MW; E57DEA832FC078D7 CRC64;

Query Match 84.0%; Score 42; DB 13; Length 94;
Best Local Similarity 60.0%; Pred. No. 1.6;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
Db 23 QHWSGLSPG 32

RESULT 8
Q8UW80 PRELIMINARY; PRT; 96 AA.
ID AC Q8UW80;
DT 01-MAR-2002 (TrEMBLrel. 20, Created).
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update).
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update).
DE Seabream-type gonadotropin-releasing hormone precursor (Gonadoliberin)
(GnRH) (LH-RH) (Luliberin).
OS Verasper moseri (Barfin flounder).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC Pleuronectoidae; Pleuronectidae; Verasper.
OX NCBI_TaxID=98923;
RN [1]
RP SEQUENCE FROM N.A.
RA Amano M.;

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RT "Molecular cloning of three cDNAs encoding GnRH in the brain of barfin
RL flounder."
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GnRH FAMILY.
DR EMBL; AB066360; BAB3984.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005183; F:inactivating hormone-releasing factor activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; Gonadoliberin.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBRN1.
DR PROSITE; PS00473; GnRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 26
FT CHAIN 27 36
FT CHAIN 27 36
FT CHAIN 40 96
FT CHAIN 96 AA; 10560 MW; PA3202565EAO0DCC CRC64;
SQ SEQUENCE 96 AA; 10560 MW; 3A3202565EAO0DCC CRC64;

Query Match 84.0%; Score 42; DB 13; Length 96;
Best Local Similarity 60.0%; Pred. No. 1.7;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXKPG 10
Db 27 QHWSYGLSPG 36

RESULT 9
ID Q805A5 PRELIMINARY; PRT; 98 AA.
AC Q805A5
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Seabream-type gonadotropin-releasing hormone precursor.
OS Oreochromis niloticus (Nile tilapia) (Tilapia nilotica).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percormorpha; Perciformes; Labroidae;
OC Cichlidae; Oreochromis.
CX NCBI_TaxID=8128;
RN [1]
RP TISSUE=Brain;
RC SEQUENCE FROM N.A.
RA Parhar I.S., Ogawa S., Sakuma Y.;
RT "Molecular cloning of tilapia (Oreochromis niloticus) GnRH cDNA."
RL Submitted (FEB-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB101665; BAC56849.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005183; F:inactivating hormone-releasing factor activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR InterPro; IPR004079; Gonadoliberin.
DR Pfam; PF00446; GnRH; 1.
DR PRINTS; PR01541; GONADOLIBRN1.
DR PROSITE; PS00473; GnRH; 1.
KW Signal.
FT SIGNAL 1 22
FT CHAIN 23 32
FT CHAIN 36 98
FT CHAIN 98 AA; 10741 MW; 2A1F7F37DBC97E3 CRC64;
SQ SEQUENCE 98 AA; 10741 MW; 2A1F7F37DBC97E3 CRC64;

Query Match 84.0%; Score 42; DB 13; Length 98;
Best Local Similarity 60.0%; Pred. No. 1.7;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXKPG 10

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Db 23 QHWSYGLSPG 32

RESULT 10
ID Q7T059 PRELIMINARY; PRT; 120 AA.
AC Q7T059
DT 01-OCT-2003 (TrEMBLrel. 25, Created)
DT 01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Seabream-type gonadotropin-releasing hormone.
OS Microponias undulatus (Atlantic croaker).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percormorpha; Perciformes; Percoidae;
OC Sciaenidae; Micropononias.
CX NCBI_TaxID=29154;
RN [1]
RP SEQUENCE FROM N.A.
RA Mohamed J.S., Thomas P., Khan I.A.;
RT "Microponias undulatus mRNA for seabream-type gonadotropin-releasing
RT hormone precursor".
RL Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY324668; AAQ16501.1; -.
SQ SEQUENCE 120 AA; 13236 MW; 33334470D2E35492 CRC64;

Query Match 84.0%; Score 42; DB 13; Length 120;
Best Local Similarity 60.0%; Pred. No. 2.1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXKPG 10
Db 24 QHWSYGLSPG 33

RESULT 11
ID Q86D90 PRELIMINARY; PRT; 219 AA.
AC Q86D90
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Preprogonadotropin-releasing hormone 1 precursor.
OS Ciona intestinalis.
OC Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
OC Phlebobranchia; Cionidae; Ciona.
CX NCBI_TaxID=7719;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=22583575; PubMed=12697698;
RA Adams B.A., Tello J.A., Ercegvi J., Warby C., Hong D.J.,
RA Akinsanya K.O., Mackie G.O., Vale W., Rivier J.E., Sherwood N.M.;
RT "Six Novel Gonadotropin-Releasing Hormones Are Encoded as Triplets on
RT Each of Two Genes in the Protochordate, Ciona intestinalis."
RL Endocrinology 144:1907-1919(2003).
DR EMBL; AY204706; AAP06793.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 2.
DR PROSITE; PS00473; GnRH; 3.
KW Signal.
FT SIGNAL 1 86
FT CHAIN 88 97
FT CHAIN 115 124
FT CHAIN 138 147
FT CHAIN 151 219
FT CHAIN 219 AA; 24970 MW; B8A0545882DCD8F7 CRC64;
SQ SEQUENCE 219 AA; 24970 MW; B8A0545882DCD8F7 CRC64;

Query Match 84.0%; Score 42; DB 5; Length 219;
Best Local Similarity 60.0%; Pred. No. 4;

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Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
DB 138 QHWSKGYSFG 147

RESULT 12

Q86D89 PRELIMINARY; PRT; 219 AA.

AC Q86D89, 24, Created)

DT 01-JUN-2003 (TREMELrel. 24, Last sequence update)

DT 01-JUN-2003 (TREMELrel. 24, Last sequence update)

DT 01-OCT-2003 (TREMELrel. 25, Last annotation update)

DE Preprogonadotropin-releasing hormone 1 precursor.

OS Ciona intestinalis.

OC Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;

OC Phlebobranchia; Cionidae; Ciona.

NCBI_TaxID=7719;

[1]

SEQUENCE FROM N.A.

MEDLINE=22583575; PubMed=12697698;

RA Adams B.A., Tello J.A., Erchevgy J., Warby C., Hong D.J.,

RA Akinsanya K.O., Mackie G.O., Vale W., Rivier J.E., Sherwood N.M.;

RT "Six Novel Gonadotropin-Releasing Hormones Are Encoded as Triplets on

RT Each of Two Genes in the Protochordate, Ciona intestinalis.";

RL Endocrinology 144:1907-1919(2003).

DR EMBL; AY204707; AAP06794.1; -

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; F:hormone activity; IEA.

DR GO; GO:0007275; P:development; IEA.

DR InterPro; IPR002012; GnRH.

DR Pfam; PF00446; GnRH; 2.

DR PROSITE; PS00473; GnRH; 3.

KW SIGNAL.

FT SIGNAL. 1 86 Potential.

FT CHAIN 89 97 gonadotropin-releasing hormone 3.

FT CHAIN 115 124 gonadotropin-releasing hormone 5.

FT CHAIN 138 147 gonadotropin-releasing hormone 6.

FT CHAIN 151 219 GnRH-associated peptide.

FT CHAIN 151 219 GnRH-associated peptide.

SEQUENCE 219 AA; 24956 MW; BB93576CALDFEB7 CRC64;

Query Match 84.0%; Score 42; DB 5; Length 219;

Best Local Similarity 60.0%; Pred. No. 4;

Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
DB 138 QHWSKGYSFG 147

RESULT 13

Q9PRH0 PRELIMINARY; PRT; 91 AA.

AC Q9PRH0, 13, Created)

DT 01-MAY-2000 (TREMELrel. 13, Created)

DT 01-MAY-2000 (TREMELrel. 13, Last sequence update)

DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)

DE Prepro-mGnRH precursor (Gonadoliberein) (Gonadotropin-releasing hormone) (LH-RH) (Luliberin).

OS Anguilla japonica (Japanese eel).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Anguilliformes; Anguillidae;

OC Anguilla.

NCBI_TaxID=7937;

[1]

SEQUENCE FROM N.A.

TISSUE=Brain;

RA Okubo K., Suetake H., Aida K.;

RT "Expression of two gonadotropin-releasing hormone (GnRH) precursor

RT genes in various tissues of the Japanese eel and evolution of GnRH.";

RL Zool. Sci. 16:471-478(1999).

[2]

SEQUENCE FROM N.A.

Okubo K., Suetake H., Aida K.;

RT "A splicing variant for the prepro-mammalian gonadotropin-releasing hormone (prepro-mGnRH) mRNA is present in the brain and various peripheral tissues of the Japanese eel.";

RL Zool. Sci. 16:645-651(1999).

CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).

CC -1- SIMILARITY: BELONGS TO THE GnRH FAMILY.

DR EMBL; AB026989; BAA82608.1; -

DR EMBL; AB026991; BAA83597.1; -

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005183; F:luteinizing hormone-releasing factor activity; IEA.

DR GO; GO:0007275; P:development; IEA.

DR InterPro; IPR002012; GnRH.

DR InterPro; IPR004079; Gonadoliberein.

DR Pfam; PF00446; GnRH; 1.

DR PRINTS; PR01541; GONADOLIBRN.

DR PROSITE; PS00473; GnRH; 1.

KW Amidation; Hormone; Signal.

FT SIGNAL. 1 22 POTENTIAL.

FT CHAIN 23 32 MGNRH.

FT CHAIN 33 91 GnRH ASSOCIATED PEPTIDE.

SEQUENCE 91 AA; 9893 MW; BA15C9DC08434A7B CRC64;

Query Match 82.0%; Score 41; DB 13; Length 91;

Best Local Similarity 60.0%; Pred. No. 2.4;

Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
DB 23 QHWSYGLRPG 32

RESULT 14

Q9W7G0 PRELIMINARY; PRT; 33 AA.

AC Q9W7G0, 12, Created)

DT 01-NOV-1999 (TREMELrel. 12, Last sequence update)

DT 01-NOV-1999 (TREMELrel. 12, Last sequence update)

DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)

DE Gonadotropin-releasing hormone (Gonadoliberein) (GnRH) (LH-RH) (Luliberin) (Fragment).

DE GnRH2.

OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;

OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.

NCBI_TaxID=8022;

[1]

SEQUENCE FROM N.A.

MEDLINE=93312119; PubMed=10385393;

RA Von Schalburg K.R., Sherwood N.M.;

RT "Regulation and expression of gonadotropin-releasing hormone gene differs in brain and gonads in rainbow trout.";

RL Endocrinology 140:3012-3024(1999).

[2]

SEQUENCE FROM N.A.

von Schalburg K.R., Sherwood N.M.;

Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.

CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).

CC -1- SIMILARITY: BELONGS TO THE GnRH FAMILY.

DR EMBL; AF110993; AAD43463.1; -

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; F:hormone activity; IEA.

DR GO; GO:0007275; P:development; IEA.

DR InterPro; IPR002012; GnRH.

DR Pfam; PF00446; GnRH; 1.

DR PROSITE; PS00473; GnRH; 1.

KW Amidation; Hormone.

NON TER 33 33

SEQUENCE 33 AA; 3668 MW; 099C825E4A72A3BB CRC64;

OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Euteleostomi;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RX MEDLINE=21232987; PubMed=11335940;
RA Uzbekova S., Ferriere F., Bailhache T., Breton B.,
RA Lareyre J.J.,
RT "Stage-dependent and alternative splicing of sGRH messengers in
rainbow trout testis during spermatogenesis.";
RL Mol. Reprod. Dev. 59:1-10(2001).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF269107; AAK54679.1; -
DR EMBL; AF269106; AAK54678.1; -
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 54 AA; 5963 MW; 06BF365F5E8E08B7 CRC64;
Query Match 80.0%; Score 40; DB 13; Length 54;
Best Local Similarity 60.0%; Pred. No. 2.2;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXKPG 10
DB 24 QHWSYGLWPG 33
RESULT 17
Q90ZE1 PRELIMINARY; PRT; 62 AA.
ID Q90ZE1
AC Q90ZE1;
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Pre-pro-sGRH-I protein (Gonadoliberin) (Gonadotropin-releasing
hormone) (LH-RH) (Luliberin) (Fragment).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RX MEDLINE=99312119; PubMed=10385393;
RA Von Schalburg K.R., Sherwood N.M.;
RT "Regulation and expression of gonadotropin-releasing hormone gene
differs in brain and gonads in rainbow trout.";
RL Endocrinology 140:3012-3024(1999).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AF110533; AAD43461.1; -
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002047; AKH.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00256; AKH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone.
FT NON TER 33
SQ SEQUENCE 33 AA; 3741 MW; 1FE1535E742B7EBB CRC64;
Query Match 80.0%; Score 40; DB 13; Length 33;
Best Local Similarity 60.0%; Pred. No. 1.3;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWXGXKPG 10
DB 24 QHWSYGLWPG 33
RESULT 16
Q90W09 PRELIMINARY; PRT; 54 AA.
ID Q90W09
AC Q90W09;
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone precursor II isoform D (Gonadotropin-
releasing hormone precursor II isoform C) (Gonadoliberin) (GNRH) (LH-
RH) (Luliberin).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Qy 1 EHWXGXKPG 10
:|||||
Db 6 QHWSYGLPG 15

RESULT 18

Q7TIL5 Q7TIL5 PRELIMINARY; PRT; 62 AA.
AC Q7TIL5
DT 01-OCT-2003 (TREMBlrel. 25, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
DE Gonadotropin-releasing hormone-II (Fragment).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Atheriniformes; Atherinoidei; Atherinidae; Atherinopsinae;
OC Odontesthes bonariensis.
OK NCBI_TaxID=219752;
RN SEQUENCE FROM N.A.
RP TISSUE=Brain;
RA Guilgur L.G., Miranda L.A., Somoza G.M.;
RT "Characterization of three GnRH cDNA sequences in the pejerrey fish
RT Odontesthes bonariensis."
RL Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY316690; AAP84604.1; -.
FT NON_TER 1
SQ SEQUENCE 62 AA; 7259 MW; 0D24C3AA0E94083F CRC64;

Query Match 80.0%; Score 40; DB 13; Length 62;
Best Local Similarity 60.0%; Pred. No. 2.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
:|||||
Db 1 QHWSHGWPFG 10

RESULT 19

Q7TIL1 Q7TIL1 PRELIMINARY; PRT; 68 AA.
AC Q7TIL1
DT 01-OCT-2003 (TREMBlrel. 25, Created)
DT 01-OCT-2003 (TREMBlrel. 25, Last sequence update)
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
DE Gonadotropin-releasing hormone (Fragment).
OS Odontesthes bonariensis.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC Atheriniformes; Atherinoidei; Atherinidae; Atherinopsinae;
OC Odontesthes.
OK NCBI_TaxID=219752;
RN SEQUENCE FROM N.A.
RP TISSUE=Brain;
RA Guilgur L.G., Miranda L.A., Somoza G.M.;
RT "Characterization of three GnRH cDNA sequences in the pejerrey fish
RT Odontesthes bonariensis."
RL Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY323198; AAP84608.1; -.
FT NON_TER 1
SQ SEQUENCE 68 AA; 7717 MW; FAA92A3AD5211AAA CRC64;

Query Match 80.0%; Score 40; DB 13; Length 68;
Best Local Similarity 60.0%; Pred. No. 2.8;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
:|||||

Db 1 QHWSYGLPG 10

RESULT 20

Q9TTVO Q9TTVO PRELIMINARY; PRT; 75 AA.
AC Q9TTVO
DT 01-MAY-2000 (TREMBlrel. 13, Created)
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Type II gonadotropin-releasing hormone (Gonadoliberin) (Gonadotropin-releasing hormone) (GnRH) (LH-RH) (Luliberin).
OS Trichosurus vulpecula (Brush-tailed possum).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Diprotodontia; Phalangeridae; Trichosurus.
OK NCBI_TaxID=9337;
RN SEQUENCE FROM N.A.
RP Lawrence S.B., McNatty K.P., Fidler A.E.;
RT "cDNA Sequence of the chicken type II gonadotropin-releasing hormone
RT (cII GnRH) gene of the brushtail possum (Trichosurus vulpecula).";
RL Submitted (OCT-1999) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC -1- SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GnRH FAMILY.
CC EMBL; AF193516; AAF07190.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR02012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 75 AA; 8381 MW; 1C0E324492CA4283 CRC64;

Query Match 80.0%; Score 40; DB 6; Length 75;
Best Local Similarity 60.0%; Pred. No. 3.1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
:|||||
Db 23 QHWSHGWPFG 32

RESULT 21

Q92094 Q92094 PRELIMINARY; PRT; 82 AA.
AC Q92094
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone precursor (Gonadoliberin) (GnRH) (LH-RH) (Luliberin).
GN PREPRO-GNRH-I.
OS Oncorhynchus nerka (Sockeye salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OK NCBI_TaxID=8023;
RN SEQUENCE FROM N.A.
RP STRAIN=Nikko; TISSUE=Brain;
RC MEDLINE=96020547; PubMed=8546809;
RX Ashihara M., Suzuki M., Kubokawa K., Yoshiura Y., Kobayashi M.,
RA Umano A., Aida K.;
RT "Two different precursor genes for the salmon-type gonadotropin-releasing hormone exist in salmonids."
RL J. Mol. Endocrinol. 15:1-9(1995).
CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC -1- SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE GnRH FAMILY.
CC EMBL; D31868; BAA06666.1; -.
DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; F:hormone activity; IEA.
 DR GO; GO:0007275; P:development; IEA.
 DR InterPro; IPR02047; AKH.
 DR InterPro; IPR02012; GNRH.
 DR Pfam; PF00446; GNRH; 1.
 DR PROSITE; PS00256; AKH; 1.
 DR PROSITE; PS00473; GNRH; 1.
 KW Amidation; Hormone; Signal.
 FT SIGNAL 1 23
 FT CHAIN 24 33
 FT CHAIN 37 82
 SQ SEQUENCE 82 AA; 9126 MW; C64044EA521B288B CRC64;
 Query Match 80.0%; Score 40; DB 13; Length 82;
 Best Local Similarity 60.0%; Pred. No. 3.4; Indels 0; Gaps 0;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHSXGXKPG 10
 Db 24 QHSYGLWPG 33
 RESULT 22
 Q90VY3 PRELIMINARY; PRT; 82 AA.
 ID Q90VY3
 AC Q90VY3
 DT 01-DEC-2001 (TrEMBLrel. 19, Created)
 DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
 DE Gonadotropin-releasing hormone precursor II isoform B2 (Gonadotropin-releasing hormone precursor II isoform A) (Gonadotropin-releasing hormone precursor II isoform B1) (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).
 DE Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 OX NCBI_TaxID=8022;
 RN RAINBOW TROUT
 RP SEQUENCE FROM N.A.
 RC MEDLINE=21232987; PubMed=11335940;
 RX Uzbekova S., Ferriere F., Guiguen Y., Bailhache T., Breton B., Lareyre J.J.;
 RA "Stage-dependent and alternative splicing of sGNRH messengers in rainbow trout testis during spermatogenesis.";
 RT Mol. Reprod. Dev. 59:1-10(2001).
 RL Mol. Reprod. Dev. 59:1-10(2001).
 CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
 CC EMBL; AF110992; AAD43462.1; -;
 CC EMBL; AF269103; AAK54675.1; -;
 CC EMBL; AF269104; AAK54676.1; -;
 CC GO; GO:0005179; F:hormone activity; IEA.
 CC GO; GO:0007275; P:development; IEA.
 CC InterPro; IPR02012; GNRH.
 CC Pfam; PF00446; GNRH; 1.
 CC PROSITE; PS00256; AKH; 1.
 CC PROSITE; PS00473; GNRH; 1.
 KW Amidation; Hormone.
 SQ SEQUENCE 82 AA; 9171 MW; 8053F4F23B115408 CRC64;
 Query Match 80.0%; Score 40; DB 13; Length 82;
 Best Local Similarity 60.0%; Pred. No. 3.4; Indels 0; Gaps 0;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHSXGXKPG 10
 Db 24 QHSYGLWPG 33
 RESULT 23
 Q9W7G1 PRELIMINARY; PRT; 82 AA.
 ID Q9W7G1
 AC Q9W7G1
 DT 01-NOV-1999 (TrEMBLrel. 12, Created)
 DT 01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
 DE Gonadotropin-releasing hormone (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).
 DE Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 OX NCBI_TaxID=8022;
 RN RAINBOW TROUT
 RP SEQUENCE FROM N.A.
 RC MEDLINE=99312119; PubMed=10385393;
 RX von Schalburg K.R., Sherwood N.M.;
 RA "Regulation and expression of gonadotropin-releasing hormone gene differs in brain and gonads in rainbow trout.";
 RT Endocrinology 140:3012-3024(1999).
 RL Endocrinology 140:3012-3024(1999).
 CC -1- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO THE GNRH FAMILY.
 CC EMBL; AF110992; AAD43462.1; -;
 CC EMBL; AF269103; AAK54675.1; -;
 CC EMBL; AF269104; AAK54676.1; -;
 CC GO; GO:0005179; F:hormone activity; IEA.
 CC GO; GO:0007275; P:development; IEA.
 CC InterPro; IPR02012; GNRH.
 CC Pfam; PF00446; GNRH; 1.
 CC PROSITE; PS00256; AKH; 1.
 CC PROSITE; PS00473; GNRH; 1.
 KW Amidation; Hormone.
 SQ SEQUENCE 82 AA; 9232 MW; 7595B4FCC65FDFD6 CRC64;
 Query Match 80.0%; Score 40; DB 13; Length 82;
 Best Local Similarity 60.0%; Pred. No. 3.4; Indels 0; Gaps 0;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 QY 1 EHSXGXKPG 10
 Db 24 QHSYGLWPG 33
 RESULT 24
 Q918P9 PRELIMINARY; PRT; 82 AA.
 ID Q918P9
 AC Q918P9
 DT 01-OCT-2000 (TrEMBLrel. 15, Created)
 DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
 DE Gonadotropin-releasing hormone (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).
 DE Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
 OX NCBI_TaxID=8022;
 RN RAINBOW TROUT
 RP SEQUENCE FROM N.A.

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RC TISSUE=Brain;
RA Ferriere F., Bailhache T., Jegu P.;
RT "Oncorhynchus mykiss scNRH-II cDNA in the brain.";
RL Submitted (FEB-2000) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL: AF232213; AAF91281.1; -.
DR GO: GO:0005576; C:extracellular; IEA.
DR GO: GO:0005179; F:hormone activity; IEA.
DR GO: GO:0007275; P:development; IEA.
DR InterPro: IPR002012; GNRH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00473; GNRH; 1.
DR Amidation: Hormone.
KW Amidation; Hormone.
SQ SEQUENCE 82 AA; 9203 MW; 8053P4F221A0FF08 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 82;
Best Local Similarity 60.0%; Pred. No. 3.4;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXXPG 10
Db 24 QHWSYGLPG 33

RESULT 25
Q918Q0 PRELIMINARY; PRT; 82 AA.
ID Q918Q0
AC Q918Q0;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Pro-scNRH-I (Gonadoliberin) (Gonadotropin-releasing hormone) (LH-RH)
DE (Luliberin).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Ferriere F., Bailhache T., Jegu P.;
RT "Oncorhynchus mykiss scNRH-I cDNA from brain.";
RL Submitted (FEB-2000) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL: AF232212; AAF91280.1; -.
DR GO: GO:0005576; C:extracellular; IEA.
DR GO: GO:0005179; F:hormone activity; IEA.
DR GO: GO:0007275; P:development; IEA.
DR InterPro: IPR002047; AKH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00255; AKH; 1.
DR PROSITE: PS00473; GNRH; 1.
DR Amidation: Hormone.
KW Amidation; Hormone.
SQ SEQUENCE 82 AA; 9198 MW; 7595A0B896556A69 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 82;
Best Local Similarity 60.0%; Pred. No. 3.4;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXXPG 10
Db 24 QHWSYGLPG 33

RESULT 26
Q8UW81 PRELIMINARY; PRT; 85 AA.
ID Q8UW81
AC Q8UW81;
DT 01-MAR-2002 (TrEMBLrel. 20, Created)
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Chicken-II type gonadotropin-releasing hormone precursor
DE (Gonadoliberin) (Gnrh) (LH-RH) (Luliberin).
OS Verasper moseri (Barfin flounder).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
OC Pleuronectoidei; Pleuronectidae; Verasper.
OX NCBI_TaxID=98923;
RN [1]
RP SEQUENCE FROM N.A.
RA Amano M.;
RT "Molecular cloning of three cDNAs encoding Gnrh in the brain of barfin
RT flounder.";
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL: AB066359; BAB81983.1; -.
DR GO: GO:0005576; C:extracellular; IEA.
DR GO: GO:0005179; F:hormone activity; IEA.
DR GO: GO:0007275; P:development; IEA.
DR InterPro: IPR002012; GNRH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00473; GNRH; 1.
DR Amidation: Hormone; Signal.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 23
FT CHAIN 24 33
FT CHAIN 37 85
FT CHAIN 85 9593 MW; 73B102A23528AA02 CRC64;
SQ SEQUENCE 85 AA; 9593 MW; 73B102A23528AA02 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 85;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXXPG 10
Db 24 QHWSHGWPY 33

RESULT 27
Q9PT25 PRELIMINARY; PRT; 86 AA.
ID Q9PT25
AC Q9PT25;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Chicken-II type gonadotropin-releasing hormone (Gonadoliberin) (Gnrh)
DE (LH-RH) (Luliberin).
OS Oncorhynchus mykiss (Rainbow trout) (Salmo gairdneri).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8022;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Ovary;
RX MEDLINE=20084414; PubMed=10619396;
RA von Schalburg K.R., Harrower W.L., Sherwood N.M.;
RT "Regulation and expression of Gnrh in salmon embryo and gonad.";
RL Mol. Cell. Endocrinol. 157:41-54(1999).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
CC SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL: AF125973; AAF08687.1; -.
DR GO: GO:0005576; C:extracellular; IEA.
DR GO: GO:0005179; F:hormone activity; IEA.

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DR GO: 0007275; P:development; IEA.
DR InterPro: IPR002012; GNRH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 86 AA; 9811 MW; D5F0A2FD4BDFC257 CRC64;

Query Match      80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
   :|||:
Db 25 QHWSHGWPY 34

RESULT 28
Q9PW69. PRELIMINARY; PRT; 86 AA.
AC Q9PW69;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone II precursor (Gonadoliberin) (GNRH)
DE (LH-RH) (Luliberin).
OS Typhlonectes natans (Rubber eel).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Gymnophiona; Caeciliidae; Typhlonectes.
OX NCBI_TaxID=8456;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Ebersole T.J., Goetz F.W., Boyd S.K.;
RT "Cloning of chicken II (CII) GNRH cDNA from the brain of a caecilian
  amphibian, Typhlonectes natans.";
RL Submitted (JUL-1999) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
  SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL: AF167558; AAD48032.1; -.
DR GO: 0005576; C:extracellular; IEA.
DR GO: 0005179; F:hormone activity; IEA.
DR GO: 0007275; P:development; IEA.
DR InterPro: IPR002012; GNRH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
SQ SEQUENCE 86 AA; 9788 MW; 2A02299F73B3720A CRC64;

Query Match      80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
   :|||:
Db 25 QHWSHGWPY 34

RESULT 29
Q8QFUS PRELIMINARY; PRT; 86 AA.
AC Q8QFUS;
DT 01-JUN-2002 (TrEMBLrel. 21, Created)
DT 01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE CII gonadotropin releasing hormone (Gonadoliberin) (GNRH) (LH-RH)
DE (Luliberin).
OS Brachydanio rerio (zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.

DR GO: 0007275; P:development; IEA.
DR InterPro: IPR002012; GNRH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
SQ SEQUENCE 86 AA; 9788 MW; 2A02299F73B3720A CRC64;

Query Match      80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
   :|||:
Db 25 QHWSHGWPY 34

RESULT 30
Q8UUK5 PRELIMINARY; PRT; 86 AA.
AC Q8UUK5;
DT 01-MAR-2002 (TrEMBLrel. 20, Created)
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Prepro-chicken-II-type gonadotropin-releasing hormone precursor
  (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).
DE (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).
GN CGNRH-II.
OS Scleropages jardinii (Australian bonytongue).
OC Eukaryota; Metazoa; Chordata; Craniata; Osteoglossomorphi;
OC Actinopterygii; Neopterygii; Teleostei; Osteoglossomorphi;
OC Osteoglossiformes; Osteoglossidae; Scleropages.
OX NCBI_TaxID=113541;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA MEDLINE=21560666; PubMed=11703078;
RA Okubo K., Aida K.;
RT "Gonadotropin-releasing hormones (GNRHs) in a primitive teleost, the
  arawana: phylogenetic evidence that three paralogous lineages of GNRH
  occurred prior to the emergence of teleosts.";
RL Gen. Comp. Endocrinol. 124:125-133(2001).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
  SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL: AB047326; BAB72183.1; -.
DR GO: 0005576; C:extracellular; IEA.
DR GO: 0005179; F:hormone activity; IEA.
DR GO: 0007275; P:development; IEA.
DR InterPro: IPR002012; GNRH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
SQ SEQUENCE 86 AA; 9635 MW; F7A4643016307D05 CRC64;

Query Match      80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

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OX NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RA Whitlock K.E., Gopinath A., Tseng A.L., Boyce M.L.;
RT "Characterization of gonadotropin releasing hormone (GNRH) expression
  in the juvenile zebrafish Danio rerio.";
RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
  SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL: AY094357; AAM15717.1; -.
DR GO: 0005576; C:extracellular; IEA.
DR GO: 0005179; F:hormone activity; IEA.
DR GO: 0007275; P:development; IEA.
DR InterPro: IPR002012; GNRH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00473; GNRH; 1.
KW Amidation; Hormone.
SQ SEQUENCE 86 AA; 9802 MW; 27F5A5CCDC4026D8 CRC64;

Query Match      80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
   :|||:
Db 25 QHWSHGWPY 34

RESULT 30
Q8UUK5 PRELIMINARY; PRT; 86 AA.
AC Q8UUK5;
DT 01-MAR-2002 (TrEMBLrel. 20, Created)
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Prepro-chicken-II-type gonadotropin-releasing hormone precursor
  (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).
GN CGNRH-II.
OS Scleropages jardinii (Australian bonytongue).
OC Eukaryota; Metazoa; Chordata; Craniata; Osteoglossomorphi;
OC Actinopterygii; Neopterygii; Teleostei; Osteoglossomorphi;
OC Osteoglossiformes; Osteoglossidae; Scleropages.
OX NCBI_TaxID=113541;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA MEDLINE=21560666; PubMed=11703078;
RA Okubo K., Aida K.;
RT "Gonadotropin-releasing hormones (GNRHs) in a primitive teleost, the
  arawana: phylogenetic evidence that three paralogous lineages of GNRH
  occurred prior to the emergence of teleosts.";
RL Gen. Comp. Endocrinol. 124:125-133(2001).
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
  SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL: AB047326; BAB72183.1; -.
DR GO: 0005576; C:extracellular; IEA.
DR GO: 0005179; F:hormone activity; IEA.
DR GO: 0007275; P:development; IEA.
DR InterPro: IPR002012; GNRH.
DR Pfam: PF00446; GNRH; 1.
DR PROSITE: PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
SQ SEQUENCE 86 AA; 9635 MW; F7A4643016307D05 CRC64;

Query Match      80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

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QY 1 EHSXGXPG 10
:|||||
Db 25 QHWSHGWP 34

RESULT 31

Q8AW16 PRELIMINARY; PRT; 86 AA.
AC Q8AW16;
DT 01-MAR-2003 (TrEMBLrel. 23, Created)
DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Chicken-II-type gonadotropin-releasing hormone precursor.
OS Cyprinus carpio (Common carp). Craniata; Vertebrata; Euteleostomi;
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Cyprinus.
OX NCBI_TaxID=7962;
RN [1]
RP SEQUENCE FROM N.A.
RA Li S.F., Hu W., Wang Y.P., Zhu Z.Y.;
RT "Genetics, cloning and promoter function analysis of the GnRH gene."
RL Submitted (DEC-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY147400; AAN64351.3; -
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
FT CHAIN 35 86
FT CHAIN 86 AA; 9959 MW; AA34E0B17AD1DA55 CRC64;
SQ SEQUENCE 86 AA; 9959 MW; AA34E0B17AD1DA55 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHSXGXPG 10
:|||||
Db 25 QHWSHGWP 34

RESULT 32

Q8JHF1 PRELIMINARY; PRT; 86 AA.
AC Q8JHF1;
DT 01-OCT-2002 (TrEMBLrel. 22, Created)
DT 01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Gonadotropin-releasing hormone type-II precursor.
OS Brachydanio rerio (Zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
OX NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RA Steven C., Ijiri S., Zohar Y.;
RT "Characterization of the gonadotropin-releasing hormone system in the zebrafish (Danio rerio)."
RL Submitted (MAY-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF511531; AAM43951.1; -
DR EMBL; AF511532; AAP34360.1; -
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.

KW Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
FT CHAIN 35 86
FT CHAIN 86 AA; 9792 MW; 9DALB3ACBCEC86A4 CRC64;
SQ SEQUENCE 86 AA; 9792 MW; 9DALB3ACBCEC86A4 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHSXGXPG 10
:|||||
Db 25 QHWSHGWP 34

RESULT 33

Q7ZT17 PRELIMINARY; PRT; 86 AA.
AC Q7ZT17;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Chicken-II-type gonadotropin-releasing hormone precursor.
GN GnRH-II.
OS Cyprinus carpio (Common carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Cyprinus.
OX NCBI_TaxID=7962;
RN [1]
RP SEQUENCE FROM N.A.
RA Li S.F., Hu W., Wang Y.P., Zhu Z.Y.;
RT "Isolation and identification of two differing sGnRH from common carp (Cyprinus carpio)."
RL Submitted (DEC-2002) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RA Li S.F., Hu W., Wang Y.P., Zhu Z.Y.;
RT "Gene clone and promoter functional analysis of cGnRH-II."
RL Submitted (FEB-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY189961; AAO39753.1; -
DR EMBL; AY246698; AAO89186.1; -
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GnRH.
DR Pfam; PF00446; GnRH; 1.
DR PROSITE; PS00473; GnRH; 1.
KW Signal.
FT SIGNAL 1 24
FT CHAIN 25 34
FT CHAIN 35 86
FT CHAIN 86 AA; 9917 MW; 6F1986E2B85DB61 CRC64;
SQ SEQUENCE 86 AA; 9917 MW; 6F1986E2B85DB61 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 86;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHSXGXPG 10
:|||||
Db 25 QHWSHGWP 34

RESULT 34

Q9PRI3 PRELIMINARY; PRT; 87 AA.
AC Q9PRI3;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)

Wed Mar 3 08:43:42 2004

GN GNRH3.
OS Oreochromis mossambicus (Mozambique tilapia) (Tilapia mossambica).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidae;
OC Cichlidae; Oreochromis.
OX NCBI_TaxID=8127;
RN [1]
RP SEQUENCE FROM N.A.
RA Molina A.I., Pellegrini E., Baihache T., Martial J.A., Muller M.;
RT "Cloning and brain expression analysis of the tilapia salmon type
GNRH".
RL Submitted (OCT-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY167989; AAC11648.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Signal.
FT SIGNAL.
SQ SEQUENCE 90 AA; 10083 MW; B3637E3839A53A4E CRC64;
Query Match 80.0%; Score 40; DB 13; Length 90;
Best Local Similarity 60.0%; Pred. No. 3.7; Indels 0; Gaps 0;
Matches 6; Conservative 1; Mismatches 3;
QY 1 EHWXGXYPG 10
Db 24 QHWSYGLPG 33
POTENTIAL.
ID Q7ZT00 PRELIMINARY; PRT; 90 AA.
AC Q7ZT00;
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Salmon-type gonadotropin-releasing hormone precursor.
GN GNRH3.
OS Oreochromis niloticus (Nile tilapia) (Tilapia nilotica).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Labroidae;
OC Cichlidae; Oreochromis.
OX NCBI_TaxID=8128;
RN [1]
RP SEQUENCE FROM N.A.
RA Sato H., Sakuma Y., Farhar I.S.;
RT "Molecular cloning of three kinds of GNRH genes and 5' untranslated
regions in tilapia (Oreochromis niloticus).";
RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Farhar I.S., Ogawa S., Sakuma Y.;
RT "Molecular cloning of tilapia (Oreochromis niloticus) GNRH cDNA.";
RL Submitted (FEB-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB104863; BAC65156.1; -.
DR EMBL; AB101667; BAC56851.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Signal.
FT SIGNAL.
FT CHAIN 1 23 Potential.
FT CHAIN 24 33 salmon-type gonadotropin-releasing
FT hormone.
FT CHAIN 34 46 GNRH-associated peptide.

FT CHAIN 47 73 GNRH-associated peptide.
SQ SEQUENCE 90 AA; 10083 MW; B3637E3839A53A4E CRC64;
Query Match 80.0%; Score 40; DB 13; Length 90;
Best Local Similarity 60.0%; Pred. No. 3.7; Indels 0; Gaps 0;
Matches 6; Conservative 1; Mismatches 3;
QY 1 EHWXGXYPG 10
Db 24 QHWSYGLPG 33
PRELIMINARY; PRT; 94 AA.
ID Q9DD8 PRELIMINARY;
AC Q9DD8;
DT 01-MAR-2001 (TrEMBLrel. 16, Created)
DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Gonadotropin releasing hormone precursor (Gonadoliberin) (GNRH) (LH-
RH) (luliberin).
GN GNRH.
OS Brachydanio rerio (Zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
OX NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Torgersen J., Nourizadeh-Lillabadi R., Husebye H., Liang M.R.,
RT "Characterization and Functional Studies of the Zebrafish (Danio
rerio) GNRH Gene.";
RL Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Brain;
RA Husebye H.;
RT Thesis (1997), Department of Food Science,
RL Agricultural University of Norway, As, Norway.
RN [3]
RP SEQUENCE FROM N.A.
RA Husebye H.;
RT "Characterization and Functional Studies of the Zebrafish (Danio
rerio) GNRH Gene.";
RL Thesis (1997), Department of Food Science,
RL Agricultural University of Norway, Aas, Norway.
RN [4]
RP SEQUENCE FROM N.A.
RA Torgersen J., Nourizadeh-Lillabadi R., Husebye H., Alestrom P.;
RT "In Silico and In Situ Characterization of the Zebrafish (Danio rerio)
GNRH III Gene.";
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS. (BY
SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
DR EMBL; AJ304429; CAC18539.1; -.
DR EMBL; AF490354; AAL9294.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007275; P:development; IEA.
DR InterPro; IPR002012; GNRH.
DR Pfam; PF00446; GNRH; 1.
DR PROSITE; PS00473; GNRH; 1.
KW Amidation; Hormone; Signal.
FT SIGNAL 1 23 GONADOTROPIN RELEASING HORMONE.
FT CHAIN 24 33 GNRH ASSOCIATED PEPTIDE (GNP).
FT CHAIN 37 94 D0101FF655A81726 CRC64;
SQ SEQUENCE 94 AA; 10576 MW;
Query Match 80.0%; Score 40; DB 13; Length 94;
Best Local Similarity 60.0%; Pred. No. 3.9;

Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
 Db 24 QHWSYGLWPG 33

RESULT 40

Q9DEH5 PRELIMINARY; PRT; 94 AA.

AC Q9DEH5; 94 AA.

DT 01-MAR-2001 (TREMBLrel. 16, Created)

DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)

DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)

DE Salmon-type gonadotropin-releasing hormone (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).

GN SGNRH.

OS Carassius auratus (Goldfish).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Carassius.

OX NCBI_TaxID=7957;

RN [1]

RP SEQUENCE FROM N.A.

RA Suetake H.;

RT "Two salmon gonadotropin-releasing hormone genes and their differential expressions in the goldfish Carassius auratus.";

RL Fisheries Sci. 66:49-57(2000).

CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.

DR EMBL; AB017272; BAB18905.1; .

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; P:hormone activity; IEA.

DR GO; GO:0007275; P:development; IEA.

DR InterPro; IPR002012; GNRH.

DR Pfam; PF00446; GNRH; 1.

DR PROSITE; PS00473; GNRH; 1.

KW Amidation; Hormone.

QY SEQUENCE 94 AA; 10545 MW; 1845854EC0468B CRC64;

Query Match 80.0%; Score 40; DB 13; Length 94;
 Best Local Similarity 60.0%; Pred. No. 3.9;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
 Db 24 QHWSYGLWPG 33

RESULT 41

Q8UUK6 PRELIMINARY; PRT; 94 AA.

AC Q8UUK6; 94 AA.

DT 01-MAR-2002 (TREMBLrel. 20, Created)

DT 01-MAR-2002 (TREMBLrel. 20, Last sequence update)

DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)

DE Prepro-salmon-type gonadotropin-releasing hormone precursor (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).

GN SGNRH.

OS Scieropages jardiinii (Australian bonytongue).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Osteoglossomorpha; Osteoglossiformes; Osteoglossidae; Scieropages.

OX NCBI_TaxID=113541;

RN [1]

RP SEQUENCE FROM N.A.

RA TISSUE=Brain;

RC MEDLINE=21560666; PubMed=11703078;

RX Okubo K., Aida K.;

RA "Gonadotropin-releasing hormones (GNRH) in a primitive teleost, the arawana: phylogenetic evidence that three paralogous lineages of GNRH occurred prior to the emergence of teleosts.";

RL Gen. Comp. Endocrinol. 124:125-133(2001).

CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.

DR EMBL; AB047325; BAB72182.1; .

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; P:hormone activity; IEA.

DR GO; GO:0007275; P:development; IEA.

DR InterPro; IPR002012; GNRH.

DR Pfam; PF00446; GNRH; 1.

DR PROSITE; PS00473; GNRH; 1.

KW Amidation; Hormone; Signal.

FT SIGNAL 1 23 POTENTIAL.

FT CHAIN 24 36 SALMON-TYPE GONADOTROPIN-RELEASING HORMONE.

QY SEQUENCE 94 AA; 10541 MW; 7790050E92FA0D66 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 94;
 Best Local Similarity 60.0%; Pred. No. 3.9;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
 Db 24 QHWSYGLWPG 33

RESULT 42

Q9DEH6 PRELIMINARY; PRT; 94 AA.

AC Q9DEH6; 94 AA.

DT 01-MAR-2001 (TREMBLrel. 16, Created)

DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)

DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)

DE Salmon-type gonadotropin-releasing hormone (Gonadoliberin) (GNRH) (LH-RH) (Luliberin).

GN SGNRH.

OS Carassius auratus (Goldfish).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Carassius.

OX NCBI_TaxID=7957;

RN [1]

RP SEQUENCE FROM N.A.

RA Suetake H.;

RT "Two salmon gonadotropin-releasing hormone genes and their differential expressions in the goldfish Carassius auratus.";

RL Fisheries Sci. 66:49-57(2000).

CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY SIMILARITY).

CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.

DR EMBL; AB017271; BAB18904.1; .

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; P:hormone activity; IEA.

DR GO; GO:0007275; P:development; IEA.

DR InterPro; IPR002012; GNRH.

DR Pfam; PF00446; GNRH; 1.

DR PROSITE; PS00473; GNRH; 1.

KW Amidation; Hormone.

QY SEQUENCE 94 AA; 10573 MW; 0141745425917B85 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 94;
 Best Local Similarity 60.0%; Pred. No. 3.9;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
 Db 24 QHWSYGLWPG 33

RESULT 43

Q8JHC3 PRELIMINARY; PRT; 94 AA.

ID Q8JHC3

AC Q8JHC3;

DB 24 QHWSYGNLPG 33

RESULT 45

Q801D6 PRELIMINARY; PRT; 94 AA.

ID Q801D6; AC Q801D6; DT 01-JUN-2003 (TREMELrel. 24, Created) DE 01-JUN-2003 (TREMELrel. 24, Last sequence update) DE 01-OCT-2003 (TREMELrel. 25, Last annotation update) DE 01-OCT-2003 (TREMELrel. 25, Last annotation update) DE Salmon-type gonadotropin-releasing hormone precursor. DE precursor. DE Cyprinus carpio (Common carp). OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; OC Cyprinidae; Cyprinus. OC NCBI_TaxID=7962; RN [1] SEQUENCE FROM N.A. RP Li S.F., Hu W., Wang Y.P., Zhu Z.Y.; RA "Gene clone and promoter functional analysis of sGRH." RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases. DR EMBL; AF211130; AA077660.1; DR GO; GO:0005576; C:extracellular; IEA. DR GO; GO:0005179; F:hormone activity; IEA. DR GO; GO:0007275; P:development; IEA. DR InterPro; IPR002012; GNRH. DR Pfam; PF00446; GNRH; 1. DR PROSITE; PS00473; GNRH; 1. SQ SEQUENCE 94 AA; 10445 MW; C3DD3F7C2A852A80 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 94; Best Local Similarity 60.0%; Pred. No. 3.9; Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10 :||| |

DB 24 QHWSYGNLPG 33

RESULT 44

Q804C1 PRELIMINARY; PRT; 94 AA.

ID Q804C1; AC Q804C1; DT 01-JUN-2003 (TREMELrel. 24, Created) DE 01-JUN-2003 (TREMELrel. 24, Last sequence update) DE 01-OCT-2003 (TREMELrel. 25, Last annotation update) DE 01-OCT-2003 (TREMELrel. 25, Last annotation update) DE Salmon-type gonadotropin-releasing hormone precursor. GN GNRH. OS Cyprinus carpio (Common carp). OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; OC Cyprinidae; Cyprinus. OC NCBI_TaxID=7962; RN [1] SEQUENCE FROM N.A. RP Li S.F., Hu W., Wang Y.P., Zhu Z.Y.; RA "Isolation and identification of two differing sGRH from common carp (Cyprinus carpio)." RL Submitted (DEC-2002) to the EMBL/GenBank/DBJ databases. DR EMBL; AY189960; AA039975.2; DR GO; GO:0005576; C:extracellular; IEA. DR GO; GO:0005179; F:hormone activity; IEA. DR GO; GO:0007275; P:development; IEA. DR InterPro; IPR002012; GNRH. DR Pfam; PF00446; GNRH; 1. DR PROSITE; PS00473; GNRH; 1. SQ SEQUENCE 94 AA; 10698 MW; C0CFAC6980FED36 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 94; Best Local Similarity 60.0%; Pred. No. 3.9; Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10 :||| |

DB 24 QHWSYGNLPG 33

RESULT 46

Q801D5 PRELIMINARY; PRT; 94 AA.

ID Q801D5; AC Q801D5; DT 01-JUN-2003 (TREMELrel. 24, Created) DE 01-JUN-2003 (TREMELrel. 24, Last sequence update) DE 01-OCT-2003 (TREMELrel. 25, Last annotation update) DE 01-OCT-2003 (TREMELrel. 25, Last annotation update) DE Salmon-type gonadotropin-releasing hormone II precursor. DE precursor. OS Cyprinus carpio (Common carp). OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; OC Cyprinidae; Cyprinus. OC NCBI_TaxID=7962; RN [1] SEQUENCE FROM N.A. RP Li S.F., Hu W., Wang Y.P., Zhu Z.Y.; RA "Isolation of two different sGRH precursor mRNAs and expression assay in dissected brain regions in the common carp." RL Submitted (FEB-2003) to the EMBL/GenBank/DBJ databases. DR EMBL; AY186622; AA039976.2; DR GO; GO:0005576; C:extracellular; IEA. DR GO; GO:0005179; F:hormone activity; IEA. DR GO; GO:0007275; P:development; IEA. DR InterPro; IPR002012; GNRH. DR Pfam; PF00446; GNRH; 1. DR PROSITE; PS00473; GNRH; 1. SQ SEQUENCE 94 AA; 10708 MW; C0CFAC6AB08CBD36 CRC64;

Query Match 80.0%; Score 40; DB 13; Length 94; Best Local Similarity 60.0%; Pred. No. 3.9; Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10 :||| |

DB 24 QHWSYGNLPG 33

Query Match 80.0%; Score 40; DB 13; Length 94;
 Best Local Similarity 60.0%; Pred. No. 3.9;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 :|||
 Db 24 QHWSHGWP 34

RESULT 47

Q9TSI3 PRELIMINARY; PRT; 107 AA.

AC Q9TSI3;
 DT 01-MAY-2000 (TREMELrel. 13, Created)
 DT 01-MAY-2000 (TREMELrel. 13, Last sequence update)
 DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)
 DE Chicken luteinizing hormone-releasing hormone II (Gonadoliberin)
 DE (Gonadotropin-releasing hormone) (GnRH) (LH-RH) (Luliberin)
 DE (Fragment).
 OS Macaca mulatta (Rhesus macaque).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
 OC Cercopitheidae; Macaca.
 OX NCBI_TaxID=9544;
 RN [1]
 RP SEQUENCE FROM N.A.

RA Abler L.A., Sherwood N.M., Grendell R.L., Golos T.G., Terasawa E.;
 RT "cDNA of a second form of luteinizing hormone releasing, chicken LHRH-
 RL II, isolated from the non-human primate brain (Abstract 632.8).";
 RL Abstr. - Soc. Neurosci. 24:1607-1607(1998).
 CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
 CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
 CC EMBL; AF104307; AAD13775.1; -;
 DR GO; GO:0005576; C:extracellular; IEA.
 DR GO; GO:0005179; F:hormone activity; IEA.
 DR InterPro; IPR002012; GNRH.
 DR Pfam; PF00446; GNRH; 1.
 DR PROSITE; PS00473; GNRH; 1.
 KW Amidation; Hormone.
 FT NON TER 107
 SQ SEQUENCE 107 AA; 11823 MW; FACEE52703C3CB1D CRC64;

Query Match 80.0%; Score 40; DB 6; Length 107;
 Best Local Similarity 60.0%; Pred. No. 4.4;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 :|||
 Db 25 QHWSHGWP 34

RESULT 48

O97655 PRELIMINARY; PRT; 114 AA.

AC O97655;
 DT 01-MAY-1999 (TREMELrel. 10, Created)
 DT 01-MAY-1999 (TREMELrel. 10, Last sequence update)
 DT 01-JUN-2003 (TREMELrel. 24, Last annotation update)
 DE Gonadotropin-releasing hormone II (Gonadoliberin) (GnRH) (LH-RH)
 DE (Luliberin).
 GN GNRH2.
 OS Macaca mulatta (Rhesus macaque).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
 OC Cercopitheidae; Macaca.
 OX NCBI_TaxID=9544;
 RN [1]
 RP SEQUENCE FROM N.A.

RA White R.B., Urbanski H.F., Fernald R.D.;
 RT "A second gene for gonadotropin-releasing hormone is expressed in the

RT rhesus macaque (Abstract #632.18).";
 RL Abstr. - Soc. Neurosci. 24:1609-1609(1998).
 CC -!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPINS (BY
 CC -!- SIMILARITY: BELONGS TO THE GNRH FAMILY.
 CC EMBL; AF097356; AAD09106.1; -;
 DR GO; GO:0005576; C:extracellular; IEA.
 DR GO; GO:0005179; F:hormone activity; IEA.
 DR GO; GO:0007275; P:development; IEA.
 DR InterPro; IPR002012; GNRH.
 DR Pfam; PF00446; GNRH; 1.
 DR PROSITE; PS00473; GNRH; 1.
 KW Amidation; Hormone.
 SQ SEQUENCE 114 AA; 12533 MW; 8B70D690D5BD5103 CRC64;

Query Match 80.0%; Score 40; DB 6; Length 114;
 Best Local Similarity 60.0%; Pred. No. 4.6;
 Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 :|||
 Db 25 QHWSHGWP 34

RESULT 49

O69212 PRELIMINARY; PRT; 517 AA.

AC O69212;
 DT 01-AUG-1998 (TREMELrel. 07, Created)
 DT 01-AUG-1998 (TREMELrel. 07, Last sequence update)
 DT 01-OCT-2003 (TREMELrel. 25, Last annotation update)
 DE Transcription activator (Fragment).
 OS Actinosynnema pretiosum (subsp. auranticum).
 OC Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
 OC Pseudococcineae; Actinosynnemataceae; Actinosynnema.
 OX NCBI_TaxID=42198;
 RN [1]
 RP SEQUENCE FROM N.A.

RA Kim C.G., Kirschning A., Bergon P., Ahn Y., Wang J.J., Shibuya M.,
 RT "Formation of 3-amino-5-hydroxy-benzoic acid, the precursor of mC7N
 RT units in ansamycin antibiotics, by a new variant of the shikimate
 RT pathway.";
 RL J. Am. Chem. Soc. 114:4941-4943(1992).
 RN [2]
 RP SEQUENCE FROM N.A.

RA STRAIN=ATCC31565;
 RX MEDLINE=98174053; PubMed=9512878;
 RA August P.R., Tang L., Yoon Y.J., Ning S., Mueller R., Yu T.W.,
 RA Taylor M., Hoffmann D., Kim C.G., Zhang X., Hutchinson C.R.,
 RA Floss H.G.;
 RT "Biosynthesis of the ansamycin antibiotic rifamycin: deductions from
 RT the molecular analysis of the rif biosynthetic gene cluster of
 RT Amycolatopsis mediterranei S699.";
 RL Chem. Biol. 5:69-79(1998).
 RN [3]
 RP SEQUENCE FROM N.A.

RA STRAIN=ATCC31565;
 RX MEDLINE=98165773; PubMed=9497318;
 RA Kim C.G., Yu T.W., Fryhle C.B., Handa S., Floss H.G.;
 RT "3-Amino-5-hydroxybenzoic acid synthase, the terminal enzyme in the
 RT formation of the precursor of mC7N units in rifamycin and related
 RT antibiotics.";
 RL J. Biol. Chem. 273:6030-6040(1998).
 CC -!- SIMILARITY: BELONGS TO THE LUXR/UHPA FAMILY OF TRANSCRIPTIONAL
 CC REGULATORS.
 DR EMBL; U33059; AAC14007.1; -;
 DR GO; GO:0005622; C:intracellular; IEA.
 DR GO; GO:0003700; F:transcription factor activity; IEA.
 DR GO; GO:0006355; P:regulation of transcription, DNA-dependent; IEA.
 DR GO; GO:0006350; P:transcription; IEA.
 DR InterPro; IPR000792; HTH_LuxR.

DR InterPro: IPR008941; TPR-like.
DR Pfam: PF00196; GerB; 1.
DR PRINTS: PR00038; HTHLDR.
DR PRODOM: PD000307; HTH_LUXR; 1.
DR SMART: SMO0421; HTH_LUXR; 1.
DR PROSITE: PS00622; HTH_LUXR_FAMILY; 1.
KW DNA-binding; Transcription; Transcription regulation.
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Db 85 EHWLAGAYPG 94
Search completed: March 2, 2004, 19:28:02
Job time : 51 secs

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RESULT 50
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AC Q87CV6
DT 01-JUN-2003 (TrEMBLrel. 24, Created)
DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Serine protease.
DE PD0950.
OS Xylella fastidiosa (strain Temecula / ATCC 700964).
OC Bacteria; Proteobacteria; Gammaproteobacteria; Xanthomonadales;
OC Xanthomonadaceae; Xylella.
OX NCBI_TaxID=183190;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=22421331; PubMed=12533478;
RA Van Sluys M.A., de Oliveira M.C., Monteiro-Vitorello C.B.,
RA Miyaki C.Y., Furlan L.R., Camargo L.E.A., da Silva A.C.R., Moon D.H.,
RA Takita M.A., Demos E.G.M., Machado M.A., Ferro M.I.T., da Silva P.R.,
RA Goldman H.S., Goldman G.H., Lemos M.V.F., El-Dorri H., Tsai S.M.,
RA Carrer H., Carrazo D.M., de Oliveira R.C., Nunes L.R., Siqueira W.J.,
RA Coutinho L.L., Kimura E.T., Ferro E.S., Harakava R., Kuramae E.E.,
RA Marino C.L., Gigliotti E., Abreu I.L., Alves L.M.C., do Amaral A.M.,
RA Baia G.S., Blanco S.R., Brito M.S., Cannavan F.S., Celestino A.V.,
RA da Cunha A.F., Fenille R.C., Ferro J.A., Formighieri E.F., Kishi L.T.,
RA Leoni S.G., Oliveira A.R., Rosa V.E. Jr., Saseaki F.T., Sena J.A.D.,
RA de Souza A.A., Truffi D., Tsukumo F., Yanai G.M., Zaros L.G.,
RA Civerolo E.L., Simpson A.J.G., Almeida N.F. Jr., Setubal J.C.,
RA Kitajima J.P.;
RT "Comparative analyses of the complete genome sequences of Pierce's
RT disease and citrus variegated chlorosis strains of Xylella
RT fastidiosa.";
RL J. Bacteriol. 185:1018-1026(2003).
DR EMBL; AF012556; AAC28814.1; -;
DR GO; GO:0004190; F:aspartic-type endopeptidase activity; IEA.
DR GO; GO:0004197; F:cysteine-type endopeptidase activity; IEA.
DR GO; GO:0008233; F:peptidase activity; IEA.
DR GO; GO:0004289; F:subtilase activity; IEA.
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DR InterPro: IPR001969; Aspartase AS.
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DR InterPro: IPR000209; Peptidase S8.
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Query Match 80.0%; Score 40; DB 16; Length 909;

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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:24:53 ; Search time 16 Seconds
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Title: US-09-857-115-7
Perfect score: 50
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Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
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Listing first 500 summaries

Database : Issued Patents AA:*

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- 6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

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3	44	88.0	10	1	US-07-690-983D-2
4	44	88.0	10	1	US-07-690-983D-32
5	44	88.0	10	1	US-08-343-883-1
6	44	88.0	10	1	US-08-000-931-5
7	44	88.0	10	1	US-08-428-488-22
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ALIGNMENTS

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; Patent No. 5198533
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; TITLE OF INVENTION: LHRH ANTAGONISTS
; NUMBER OF SEQUENCES: 11
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/197,153
; FILING DATE: 23-MAY-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 74,126
; FILING DATE: 17-JUL-1987
; SEQ ID NO:2;
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Query Match 90.0%; Score 45; DB 6; Length 10;

Best Local Similarity 70.0%; Pred. No. 0.028; 3; Indels 0; Gaps 0;

Matches 7; Conservative 0; Mismatches 3;

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RESULT 2

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US-07-714-540-9
; Sequence 9, Application US/07714540
; Patent No. 5262521
; GENERAL INFORMATION:
; APPLICANT: Alquist, Ronald G.
; APPLICANT: Toll, Lawrence
; TITLE OF INVENTION: ISOLATED ATRIAL PEPTIDE-DEGRADING
```

TITLE OF INVENTION: ENZYME AND NOVEL COMPOUNDS USEFUL AS INHIBITORS THEREOF
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Irell & Manella
STREET: 545 Middlefield Road, Suite 200
CITY: Menlo Park
STATE: California
COUNTRY: USA
ZIP: 94025
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/714,540
FILING DATE: 19910607
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Reed, Dianne E.
REGISTRATION NUMBER: 31,292
REFERENCE/DOCKET NUMBER: 8500-0135.00
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-327-7250
TELEFAX: 415-327-2951
TELEX: 706141
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
US-07-714-540-9

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
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DB 1 EHWSYGLRPG 10

RESULT 3
US-07-690-983D-2
Sequence 2, Application US/07690983D
Patent No. 5403586
GENERAL INFORMATION:
APPLICANT: RUSSELL-JONES, Gregory J.
APPLICANT: STEWART, Andrew G.
APPLICANT: TSONIS, Con G.
TITLE OF INVENTION: FUSION PROTEINS
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 3000 K Street, N.W.
CITY: Washington, D.C.
COUNTRY: USA
ZIP: 20007-5109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/690,983D
FILING DATE: 25-JUN-1991
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU90/00373
FILING DATE: 24-AUG-1990
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 16786/148 CHAC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
TELEFAX: (202)672-5399
INFORMATION FOR SEQ ID NO: 32:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-07-690-983D-32

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
|||||
DB 1 EHWSYGLRPG 10

NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 16786/148 CHAC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
TELEFAX: (202)672-5399
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-07-690-983D-2

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
|||||
DB 1 EHWSYGLRPG 10

RESULT 4
US-07-690-983D-32
Sequence 32, Application US/07690983D
Patent No. 5403586
GENERAL INFORMATION:
APPLICANT: RUSSELL-JONES, Gregory J.
APPLICANT: STEWART, Andrew G.
APPLICANT: TSONIS, Con G.
TITLE OF INVENTION: FUSION PROTEINS
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 3000 K Street, N.W.
CITY: Washington, D.C.
COUNTRY: USA
ZIP: 20007-5109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/690,983D
FILING DATE: 25-JUN-1991
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/AU90/00373
FILING DATE: 24-AUG-1990
ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A.
REGISTRATION NUMBER: 29,768
REFERENCE/DOCKET NUMBER: 16786/148 CHAC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)672-5300
TELEFAX: (202)672-5399
INFORMATION FOR SEQ ID NO: 32:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-07-690-983D-32

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
|||||
DB 1 EHWSYGLRPG 10

RESULT 5
US-08-343-883-1
; Sequence 1, Application US/08343883
; Patent No. 5573767
; GENERAL INFORMATION:
; APPLICANT: Dufour, Raymond J.
; APPLICANT: Roulet, Claude J.M.
; APPLICANT: Chouvet, Claire D.
; APPLICANT: Bonneau, Michel B.
; TITLE OF INVENTION: Method for improving the organoleptic
; qualities of the meat from uncastrated male domestic
; animals, vaccines which are usable in this method, new
; peptide, in particular for producing these vaccines...
; TITLE OF INVENTION: peptide,
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Larson and Taylor
; STREET: 727 Twenty-third Street, South
; CITY: Arlington
; STATE: Virginia
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/343.883
; FILING DATE: 17-NOV-1994
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/946,495
; FILING DATE: 09-NOV-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: FR 9102513
; FILING DATE: 01-MAR-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: FR 9115289
; FILING DATE: 10-DEC-1991
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 1
; OTHER INFORMATION: /label= pyro
; OTHER INFORMATION: /note= "pyroglutamic acid"
; PUBLICATION INFORMATION:
; AUTHORS: Matsuo, H.
; AUTHORS: Baba, Y.
; AUTHORS: G. Nair, R. M.
; AUTHORS: Arimura, A. V.
; AUTHORS: Schally, A. V.
; TITLE: Structure of the porcine LH- and
; TITLE: FSH-releasing hormone. I. The proposed amino acid
; TITLE: sequence.
; JOURNAL: Biochem. Biophys. Res. Commun.
; VOLUME: 43
; ISSUE: 6
; PAGES: 1334-1339
; DATE: 1971
; RELEVANT RESIDUES IN SEQ ID NO: 1: FROM 1 TO 10
US-08-343-883-1

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
Qy 1 EHWSGXKPG 10
Db 1 EHWSYGLRPG 10
RESULT 6
US-08-000-931-5
; Sequence 5, Application US/08000931
; Patent No. 5576477
; GENERAL INFORMATION:
; APPLICANT: Tamanoi Dr., Fuyuhiko
; TITLE OF INVENTION: IDENTIFICATION AND CHARACTERIZATION OF
; TITLE OF INVENTION: INHIBITORS OF PROTEIN FARNESYLTRANSFERASE
; NUMBER OF SEQUENCES: 10
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W., Suite 500
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/000,931
; FILING DATE: 05-JAN-1994
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 64098/102/ARDE
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; TELEX: 904136
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-000-931-5
Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
Qy 1 EHWSGXKPG 10
Db 1 EHWSYGLRPG 10
RESULT 7
US-08-428-488-22
; Sequence 22, Application US/08428488
; Patent No. 5624894
; GENERAL INFORMATION:
; APPLICANT: BODOR, Nicholas S.
; TITLE OF INVENTION: BRAIN-ENHANCED DELIVERY OF NEUROACTIVE
; TITLE OF INVENTION: PEPTIDES BY SEQUENTIAL METABOLISM
; NUMBER OF SEQUENCES: 107
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: P.O. Box 1404
; CITY: Alexandria

```
STATE: Virginia
COUNTRY: United States
ZIP: 22313-1404
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/428,488
FILING DATE: 27-APR-1995
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Baumeister, Mary Katherine
REGISTRATION NUMBER: 26,254
REFERENCE/DOCKET NUMBER: 028724-087
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
TELEFAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /note= "Position 1 = p-Glu."
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /note= "Position 10 = Gly-NH2."
US-08-428-488-22

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSGXKXPG 10
Db 1 EHWSYGLRPG 10

RESULT 8
US-08-341-219-11
; Sequence 11, Application US/08341219
; Patent No. 5643877
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gothliff, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; TITLE OF INVENTION: Reproduction in Fish
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/341,219
; FILING DATE: 05-DEC-1994
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```
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi,, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "-pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-341-219-11

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSGXKXPG 10
Db 1 EHWSYGLRPG 10

RESULT 9
US-08-341-219-12
; Sequence 12, Application US/08341219
; Patent No. 5643877
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gothliff, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; TITLE OF INVENTION: Reproduction in Fish
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/341,219
; FILING DATE: 05-DEC-1994
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi,, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999
```

TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-341-219-12

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; 3; Indels 0; Gaps 0;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXKPG 10
Db 1 EHWSYGLQPG 10

RESULT 10
US-08-341-219-13
Sequence 13, Application US/08341219
Patent No. 5643877
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothelf, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling
TITLE OF INVENTION: Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/341,219
FILING DATE: 05-DEC-1994
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:

LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-341-219-13

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; 3; Indels 0; Gaps 0;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXKPG 10
Db 1 EHWSHGLNPG 10

RESULT 11
US-08-453-588-22
Sequence 22, Application US/08453588
Patent No. 5684145
GENERAL INFORMATION:
APPLICANT: Anna van der Zee, Irma Marianne van Die,
APPLICANT: Willem Pieter Martin Hoekstra,
APPLICANT: Josephus Theodorus Gielen.
TITLE OF INVENTION: Carrier system against GnRH
NUMBER OF SEQUENCES: 30
CORRESPONDENCE ADDRESS:
ADDRESSEE: Akzo No. 5684145el Patent Department
STREET: 1300 Piccard Drive, Suite 206
CITY: Rockville
STATE: Maryland
COUNTRY: U.S.A.
ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/453,588
FILING DATE: 30-MAY-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/078,661
FILING DATE: 16-JUN-1993
ATTORNEY/AGENT INFORMATION:
NAME: Mary E. Gormley
REGISTRATION NUMBER: 34,409
TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 258-5200
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
FEATURE:
NAME/KEY: Glu at position 1 is pyroglutamic acid
US-08-453-588-22

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
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DB 1 EHWSYGLRPG 10

RESULT 12

US-08-591-917-1
; Sequence 1, Application US/08591917
; Patent No. 5707964
; GENERAL INFORMATION:
; APPLICANT: Nett, Torrance M
; APPLICANT: Glode, Leonard Michael
; TITLE OF INVENTION: A METHOD FOR TREATING CANCER
; NUMBER OF SEQUENCES: 3
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Sheridan Ross & McIntosh
; STREET: 1700 Lincoln Street, Suite 3500
; CITY: Denver
; STATE: Colorado
; COUNTRY: USA
; ZIP: 80203
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/591,917
; FILING DATE: 26-JAN-1996
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Kovarik, Joseph E.
; REGISTRATION NUMBER: 33,005
; REFERENCE/DOCKET NUMBER: 2730-3-2-1-1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (303) 863-9700
; TELEFAX: (303) 863-0223
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-591-917-1

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
|||||
DB 1 EHWSYGLRPG 10

RESULT 13

US-08-446-692-1
; Sequence 1, Application US/08446692
; Patent No. 5759551
; GENERAL INFORMATION:
; APPLICANT: Ladd, Anna
; APPLICANT: Wang, Chang Yi
; APPLICANT: Zamb, Timothy
; TITLE OF INVENTION: Immunogenic LHRH peptide constructs
; NUMBER OF SEQUENCES: 114
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Maria C.H. Lin
; STREET: 345 Park Avenue

CITY: New York
STATE: NY
COUNTRY: US
ZIP: 10154-0053
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/446,692
FILING DATE: 7-JUN-1995
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Maria C.H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151-4146 US2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 415-8745
TELEFAX: (516) 751-6849
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-446-692-1

Query Match 88.0%; Score 44; DB 1; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
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DB 1 EHWSYGLRPG 10

RESULT 14

US-08-796-598-6
; Sequence 6, Application US/08796598
; Patent No. 5827659
; GENERAL INFORMATION:
; APPLICANT: PATTERSON, DALE H.
; APPLICANT: TARR, GEORGE E.
; TITLE OF INVENTION: METHODS AND APPARATUS FOR SEQUENCING
; TITLE OF INVENTION: POLYMERS USING MASS SPECTROMETRY.
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Patent Administrator - Testa, Hurwitz &
; ADDRESSEE: Thibeault
; STREET: High Street Tower, 125 High Street
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/796,598
FILING DATE: 07-FEB-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/446,055
FILING DATE: 19-MAY-1995
ATTORNEY/AGENT INFORMATION:
NAME: FLYNN Esq., Kerry A.
REGISTRATION NUMBER: 33,693
REFERENCE/DOCKET NUMBER: SYP-115
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 248-7000

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; TELEFAX: (617) 248-7100
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-796-598-6

Query Match      88.0%; Score 44; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
   |||||
Db 1 EHWYGLRPG 10

RESULT 15
US-08-694-865-18
; Sequence 18, Application US/08694865
; Patent No. 5837268
; GENERAL INFORMATION:
; APPLICANT: POTTER, ANDREW A.
; APPLICANT: MANN, JOHN G.
; TITLE OF INVENTION: GRH-LEUKOTOXIN CHIMERAS
; NUMBER OF SEQUENCES: 34
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: REED & ROBINS LLP
; STREET: 285 HAMILTON AVENUE, SUITE 200
; CITY: PALO ALTO
; STATE: CA
; COUNTRY: USA
; ZIP: 94301
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/694,865
; FILING DATE: 09-AUG-1996
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: MCCracken, THOMAS P.
; REGISTRATION NUMBER: 38,548
; REFERENCE/DOCKET NUMBER: 9001-0016.22
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 327-3400
; TELEFAX: (415) 327-3231
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 1
; OTHER INFORMATION: /note= "This position is pyroGlu."
US-08-694-865-18

Query Match      88.0%; Score 44; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
   |||||
Db 1 EHWYGLRPG 10

; TELEFAX: (617) 248-7100
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-796-598-6

Query Match      88.0%; Score 44; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
   |||||
Db 1 EHWYGLRPG 10

RESULT 16
US-08-488-351A-1
; Sequence 1, Application US/08488351A
; Patent No. 5843446
; GENERAL INFORMATION:
; APPLICANT: Ladd, Anna
; APPLICANT: Wang, Chang Yi
; APPLICANT: Zamb, Timothy
; TITLE OF INVENTION: Immunogenic LHRH peptide constructs
; NUMBER OF SEQUENCES: 114
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Maria C.H. Lin
; STREET: 345 Park Avenue
; CITY: New York
; STATE: NY
; COUNTRY: US
; ZIP: 10154-0053
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/488,351A
; FILING DATE: 7-JUN-1995
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/446,692
; FILING DATE: 7-JUN-1995
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/229,275
; FILING DATE: 14-APR-1994
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/057,166
; FILING DATE: 27-APR-1992
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: Maria C.H. Lin
; REGISTRATION NUMBER: 29,323
; REFERENCE/DOCKET NUMBER: 1151-4146 US2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212) 415-8745
; TELEFAX: (516) 751-6849
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-488-351A-1

Query Match      88.0%; Score 44; DB 2; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWXGXKPG 10
   |||||
Db 1 EHWYGLRPG 10

RESULT 17
US-08-480-494B-1
; Sequence 1, Application US/08480494B
; Patent No. 5843901
; GENERAL INFORMATION:
; APPLICANT: Roeseke, Roger W.
; TITLE OF INVENTION: LHRH Antagonist Peptides
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: LAHIVE & COCKFIELD
```

```
; STREET: 60 State Street, Suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/480,494B
; FILING DATE: 07-JUN-1995
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: DeConti, Giulio A.
; REGISTRATION NUMBER: 31,503
; REFERENCE/DOCKET NUMBER: PPI-007
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)227-5941
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-480-494B-1
;
; Query Match 88.0%; Score 44; DB 2; Length 10;
; Best Local Similarity 70.0%; Pred. No. 0.043;
; Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
;
; Qy 1 EHWSGXKXPG 10
; Db 1 EHWSYGLRPG 10
;
; RESULT 18
; US-08-447-175A-6
; Sequence 6, Application US/08447175A
; Patent No. 5869240
; GENERAL INFORMATION:
; APPLICANT: PATTERSON, DALE H.
; TITLE OF INVENTION: METHODS AND APPARATUS FOR SEQUENCING
; TITLE OF INVENTION: POLYMERS WITH A STATISTICAL CERTAINTY USING MASS
; TITLE OF INVENTION: SPECTROMETRY.
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Patent Administrator - Testa, Hurwitz &
; ADDRESSEE: Thibeault, LLP
; STREET: High Street Tower, 125 High Street
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/447,175A
; FILING DATE: 19-MAY-1995
; CLASSIFICATION: 422
; ATTORNEY/AGENT INFORMATION:
; NAME: RAUSCHENBACH, Kurt
; REGISTRATION NUMBER: 40,137
; REFERENCE/DOCKET NUMBER: SYP-114
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617) 248-7000
; TELEFAX: (617) 248-7100
; INFORMATION FOR SEQ ID NO: 6:
;
; STREET: 60 State Street, Suite 510
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02109-1875
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/480,494B
; FILING DATE: 07-JUN-1995
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: DeConti, Giulio A.
; REGISTRATION NUMBER: 31,503
; REFERENCE/DOCKET NUMBER: PPI-007
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)227-7400
; TELEFAX: (617)227-5941
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-480-494B-1
;
; Query Match 88.0%; Score 44; DB 2; Length 10;
; Best Local Similarity 70.0%; Pred. No. 0.043;
; Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
;
; Qy 1 EHWSGXKXPG 10
; Db 1 EHWSYGLRPG 10
;
; RESULT 19
; US-08-521-079-22
; Sequence 22, Application US/08521079
; Patent No. 6019983
; GENERAL INFORMATION:
; APPLICANT: Anna van der Zee, Irma Marianne van Die,
; APPLICANT: Willem Pieter Martin Hoekstra,
; APPLICANT: Josephus Theodorus Gielen.
; TITLE OF INVENTION: Carrier system against GnRH
; NUMBER OF SEQUENCES: 30
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Akzo Pharma
; STREET: 1330 Piccard Drive
; CITY: Rockville
; STATE: Maryland
; COUNTRY: U.S.A.
; ZIP: 20850
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/521,079
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/078,661
; FILING DATE: 16-JUN-1993
; APPLICATION NUMBER: EPA No. 6019983 92.201.775.1
; FILING DATE: 18-JUN-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: William M. Blackstone
; REGISTRATION NUMBER: 29,772
; REFERENCE/DOCKET NUMBER:
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (301) 258-5200
; INFORMATION FOR SEQ ID NO: 22:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; OTHER INFORMATION: Glu at position 1 is pyroglutamic acid
; US-08-521-079-22
;
; Query Match 88.0%; Score 44; DB 3; Length 10;
; Best Local Similarity 70.0%; Pred. No. 0.043;
; Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
;
; Qy 1 EHWSGXKXPG 10
; Db 1 EHWSYGLRPG 10
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; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-447-175A-6
;
; Query Match 88.0%; Score 44; DB 2; Length 10;
; Best Local Similarity 70.0%; Pred. No. 0.043;
; Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
;
; Qy 1 EHWSGXKXPG 10
; Db 1 EHWSYGLRPG 10
;
; RESULT 19
; US-08-521-079-22
; Sequence 22, Application US/08521079
; Patent No. 6019983
; GENERAL INFORMATION:
; APPLICANT: Anna van der Zee, Irma Marianne van Die,
; APPLICANT: Willem Pieter Martin Hoekstra,
; APPLICANT: Josephus Theodorus Gielen.
; TITLE OF INVENTION: Carrier system against GnRH
; NUMBER OF SEQUENCES: 30
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Akzo Pharma
; STREET: 1330 Piccard Drive
; CITY: Rockville
; STATE: Maryland
; COUNTRY: U.S.A.
; ZIP: 20850
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/521,079
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/078,661
; FILING DATE: 16-JUN-1993
; APPLICATION NUMBER: EPA No. 6019983 92.201.775.1
; FILING DATE: 18-JUN-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: William M. Blackstone
; REGISTRATION NUMBER: 29,772
; REFERENCE/DOCKET NUMBER:
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (301) 258-5200
; INFORMATION FOR SEQ ID NO: 22:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; OTHER INFORMATION: Glu at position 1 is pyroglutamic acid
; US-08-521-079-22
;
; Query Match 88.0%; Score 44; DB 3; Length 10;
; Best Local Similarity 70.0%; Pred. No. 0.043;
; Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
;
; Qy 1 EHWSGXKXPG 10
; Db 1 EHWSYGLRPG 10
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RESULT 20
US-09-124-491-18
; Sequence 18, Application US/09124491
; Patent No. 6022960
; GENERAL INFORMATION:
; APPLICANT: POTTER, ANDREW A.
; APPLICANT: MANN, JOHN G.
; TITLE OF INVENTION: GRH-LEUKOTOXIN CHIMERAS
; NUMBER OF SEQUENCES: 34
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: REED & ROBINS LLP
; STREET: 285 HAMILTON AVENUE, SUITE 200
; CITY: PALO ALTO
; STATE: CA
; COUNTRY: USA
; ZIP: 94301
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/124,491
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/694,865
; FILING DATE: 09-AUG-1996
; APPLICATION NUMBER: US 08/387,156
; FILING DATE: 10-FEB-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/960,932
; FILING DATE: 14-OCT-1992
; APPLICATION DATA:
; APPLICATION NUMBER: US 07/779,171
; FILING DATE: 16-OCT-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: MCCracken, THOMAS P.
; REGISTRATION NUMBER: 38,548
; REFERENCE/DOCKET NUMBER: 9001-0016.22
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415)327-3400
; TELEFAX: (415)327-3231
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 1
; OTHER INFORMATION: /note= "This position is pyroGlu."
US-09-124-491-18
Query Match 88.0%; Score 44; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; Mismatches 0; Gaps 0;
Matches 7; Conservative 0; Indels 0; Gaps 0;
QY 1 EHWXGXKPG 10
DB 1 EHWXGLRPG 10
RESULT 21
US-09-124-491-18
; Sequence 13, Application US/08927128
; Patent No. 6127150
; GENERAL INFORMATION:
; APPLICANT: Coolidge, Thomas
; APPLICANT: Wagner, Fred
; APPLICANT: van Hecke, Gino
; APPLICANT: Schuster, Sheldon
; APPLICANT: Stout, Jay
; APPLICANT: Wylie, Dwane
; TITLE OF INVENTION: PURIFICATION DIRECTED CLOSING OF PEPTIDES
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 NO. 6127150west Center, 90 S. 7th Street
; CITY: Minneapolis
; STATE: MN
; COUNTRY: U.S.A.
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/927,128
; FILING DATE: 05-SEP-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/680,004

us-09-100-414B-77
TITLE OF INVENTION: IMMUNOGENS
NUMBER OF SEQUENCES: 106
CORRESPONDENCE ADDRESS:
ADDRESSEE: Morgan & Finnegan, L.L.P.
STREET: 345 Park Avenue
CITY: New York
STATE: NY
COUNTRY: USA
ZIP: 10154-0054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC Windows
SOFTWARE: Word 97
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/100,414B
FILING DATE: 20-JUNE-1998
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151-4157
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO: 77:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-09-100-414B-77
Query Match 88.0%; Score 44; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; Mismatches 0; Gaps 0;
Matches 7; Conservative 0; Indels 0; Gaps 0;
QY 1 EHWXGXKPG 10
DB 1 EHWXGLRPG 10
RESULT 22
US-08-927-128-13
; Sequence 13, Application US/08927128
; Patent No. 6127150
; GENERAL INFORMATION:
; APPLICANT: Coolidge, Thomas
; APPLICANT: Wagner, Fred
; APPLICANT: van Hecke, Gino
; APPLICANT: Schuster, Sheldon
; APPLICANT: Stout, Jay
; APPLICANT: Wylie, Dwane
; TITLE OF INVENTION: PURIFICATION DIRECTED CLOSING OF PEPTIDES
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merchant & Gould
; STREET: 3100 NO. 6127150west Center, 90 S. 7th Street
; CITY: Minneapolis
; STATE: MN
; COUNTRY: U.S.A.
; ZIP: 55402
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/927,128
; FILING DATE: 05-SEP-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/680,004

;; FILING DATE: 15-JUL-1995
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Carter, Charles G
;; REGISTRATION NUMBER: 35,093
;; REFERENCE/DOCKET NUMBER: 8648.2USD1
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 612/332-5300
;; TELEFAX: 612/332-9081
;; TELEX:
;; INFORMATION FOR SEQ ID NO: 13:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 10 amino acids
;; TYPE: amino acid
;; STRANDEDNESS: single
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
;; HYPOTHETICAL: NO
;; ANTI-SENSE: NO
;; FRAGMENT TYPE: N-terminal
;; ORIGINAL SOURCE:
;; US-08-927-128-13
;
Query Match 88.0%; Score 44; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; 3; Indels 0;
Matches 7; Conservative 0; Mismatches 3; Gaps 0;
;
Qy 1 EHWSXGXPG 10
||| |
Db 1 EHWSYGLRPG 10
;
RESULT 23
US-08-912-314A-11
; Sequence 11, Application US/08912314A
; Patent No. 6210927
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gothliff, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; TITLE OF INVENTION: Reproduction in Fish
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/912,314A
; FILING DATE: 30-JUN-1997
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/341,219
; FILING DATE: 05-DEC-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212) 790-9090
; TELEFAX: (212) 869-8864/9741
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids

;; TYPE: amino acid
;; STRANDEDNESS: not relevant
;; TOPOLOGY: unknown
;; MOLECULE TYPE: peptide
;; HYPOTHETICAL: NO
;; ANTI-SENSE: NO
;; FEATURE:
;; NAME/KEY: Modified-site
;; LOCATION: 1
;; OTHER INFORMATION: /product= "OTHER"
;; OTHER INFORMATION: /label= Glu1
;; OTHER INFORMATION: /note= "pyroglutamic acid"
;; FEATURE:
;; NAME/KEY: Modified-site
;; LOCATION: 10
;; OTHER INFORMATION: /product= "OTHER"
;; OTHER INFORMATION: /label= Gly10
;; OTHER INFORMATION: /note= "amidated"
;; US-08-912-314A-11
;
Query Match 88.0%; Score 44; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; 3; Indels 0;
Matches 7; Conservative 0; Mismatches 3; Gaps 0;
;
Qy 1 EHWSXGXPG 10
||| |
Db 1 EHWSYGLRPG 10
;
RESULT 24
US-08-912-314A-12
; Sequence 12, Application US/08912314A
; Patent No. 6210927
; GENERAL INFORMATION:
; APPLICANT: Zohar, Y.
; APPLICANT: Rivier, J.
; APPLICANT: Powell, J.
; APPLICANT: Sherwood, N.
; APPLICANT: Gothliff, Y.
; TITLE OF INVENTION: Compounds and Methods For Controlling
; TITLE OF INVENTION: Reproduction in Fish
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: N.Y.
; COUNTRY: USA
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/912,314A
; FILING DATE: 30-JUN-1997
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/341,219
; FILING DATE: 05-DEC-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 8399-003-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212) 790-9090
; TELEFAX: (212) 869-8864/9741
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: not relevant

TOPOLOGY: unknown
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-912-314A-12

Query Match 88.0%; Score 44; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 3; Gaps 0;

Qy 1 EHWSXGXPG 10
Db 1 EHWSYGLPG 10

RESULT 25
US-08-912-314A-13
Sequence 13, Application US/08912314A
Patent No. 6210927
GENERAL INFORMATION:
APPLICANT: Zohar, Y.
APPLICANT: Rivier, J.
APPLICANT: Powell, J.
APPLICANT: Sherwood, N.
APPLICANT: Gothelf, Y.
TITLE OF INVENTION: Compounds and Methods For Controlling Reproduction in Fish
NUMBER OF SEQUENCES: 26
CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: N.Y.
COUNTRY: USA
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/912.314A
FILING DATE: 30-JUN-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/341,219
FILING DATE: 05-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30742
REFERENCE/DOCKET NUMBER: 8399-003-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-8864/9741
INFORMATION FOR SEQ ID NO: 13:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: unknown
MOLECULE TYPE: peptide

HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Modified-site
LOCATION: 1
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Glu1
OTHER INFORMATION: /note= "pyroglutamic acid"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 10
OTHER INFORMATION: /product= "OTHER"
OTHER INFORMATION: /label= Gly10
OTHER INFORMATION: /note= "amidated"
US-08-912-314A-13

Query Match 88.0%; Score 44; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 3; Gaps 0;

Qy 1 EHWSXGXPG 10
Db 1 EHWSHGLNPG 10

RESULT 26
US-09-303-323-77
Sequence 77, Application US/09303323
Patent No. 6238987
GENERAL INFORMATION:
APPLICANT: Wang, Chang Yi
TITLE OF INVENTION: NOVEL LHRH PEPTIDE
NUMBER OF SEQUENCES: 106
CORRESPONDENCE ADDRESS:
ADDRESSEE: Morgan & Finnegan, L.L.P.
STREET: 345 Park Avenue
CITY: New York
STATE: NY
COUNTRY: USA
ZIP: 10154-0054
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC Windows
SOFTWARE: Word 97
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/303,323
FILING DATE: 30-APR-1999
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/100,414
FILING DATE: 20-JUNE-1998
ATTORNEY/AGENT INFORMATION:
NAME: Maria H. Lin
REGISTRATION NUMBER: 29,323
REFERENCE/DOCKET NUMBER: 1151-4157
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-758-4800
TELEFAX: 212-751-6849
INFORMATION FOR SEQ ID NO: 77:
SEQUENCE CHARACTERISTICS:
LENGTH: 10 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-09-303-323-77

Query Match 88.0%; Score 44; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 3; Gaps 0;

Qy 1 EHWSXGXPG 10

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Db 1 EHWSYGLRPG 10
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RESULT 27
US-09-373-180-1
; Sequence 1, Application US/09373180
; Patent No. 6297354
; GENERAL INFORMATION:
; APPLICANT: Abbott Laboratories
; APPLICANT: Haviv, J.
; APPLICANT: Dwight, W.
; APPLICANT: Greer, J.
; TITLE OF INVENTION: PENTAPEPTIDE LHRH ANALOGS
; FILE REFERENCE: 6389-US-02
; CURRENT APPLICATION NUMBER: US/09/373,180
; CURRENT FILING DATE: 1999-08-12
; EARLIER APPLICATION NUMBER: US 60/096,292
; EARLIER FILING DATE: 1998-08-12
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-373-180-1
Query Match 88.0%; Score 44; DB 3; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; 3; Indels 0; Gaps 0;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWSGXKXPG 10
|||||
Db 1 EHWSYGLRPG 10
|||||
RESULT 28
US-09-026-276-28
; Sequence 28, Application US/09026276
; Patent No. 6319503
; GENERAL INFORMATION:
; APPLICANT: Kenten, John H
; APPLICANT: Tramontano, Alfonso
; APPLICANT: Pilon, Aprile L
; APPLICANT: Lohnas, Gerald L
; APPLICANT: Roberts, Steven F
; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
; FILE REFERENCE: U.S. Patent Application No. 6319503 09/026,276
; CURRENT APPLICATION NUMBER: US/09/026,276
; CURRENT FILING DATE: 1998-02-19
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Porcine
US-09-026-276-28
Query Match 88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; 3; Indels 0; Gaps 0;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWSGXKXPG 10
|||||
Db 1 EHWSYGLRPG 10
|||||
RESULT 29
US-09-451-013-1
; Sequence 1, Application US/09451013
; Patent No. 6331520
; GENERAL INFORMATION:
; APPLICANT: Richardson, Peter
; TITLE OF INVENTION: Pharmaceutical Compositions of Peptides Having Low
; TITLE OF INVENTION: Solubility in Physiological Medium
; FILE REFERENCE: P/717-175
; CURRENT APPLICATION NUMBER: US/09/451,013
; CURRENT FILING DATE: 1999-11-29
; PRIOR APPLICATION NUMBER: PCT/EP98/03079
; PRIOR FILING DATE: 1998-05-26
; PRIOR APPLICATION NUMBER: EP 97108593.1
; PRIOR FILING DATE: 1997-05-28
; PRIOR APPLICATION NUMBER: EP 97121246.9
; PRIOR FILING DATE: 1997-12-03
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: UNSURE
; LOCATION: (1)..(10)
; OTHER INFORMATION: Luteinising hormone releasing hormone
US-09-451-013-1
Query Match 88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; 3; Indels 0; Gaps 0;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWSGXKXPG 10
|||||
Db 1 EHWSYGLRPG 10
|||||
RESULT 30
US-08-973-378-1
; Sequence 1, Application US/08973378
; Patent No. 6423686
; GENERAL INFORMATION:
; APPLICANT: Roeske, Roger W.
; TITLE OF INVENTION: LHRH Antagonist Peptides
; FILE REFERENCE: PPI-007CPUS
; CURRENT APPLICATION NUMBER: US/08/973,378
; CURRENT FILING DATE: 1998-04-06
; EARLIER APPLICATION NUMBER: 08/480,494
; EARLIER FILING DATE: 1995-06-07
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Homo sapiens
US-08-973-378-1
Query Match 88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043; 3; Indels 0; Gaps 0;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWSGXKXPG 10
|||||
Db 1 EHWSYGLRPG 10
|||||
RESULT 31
US-09-698-134-1
; Sequence 1, Application US/09698134
; Patent No. 6433135
; GENERAL INFORMATION:
; APPLICANT: EL TAYAR, Nabil
; APPLICANT: ZHAO, Xuan
; APPLICANT: BENTLEY, Michael D.
; TITLE OF INVENTION: PEG-LHRH ANALOG CONJUGATES
; FILE REFERENCE: EL-TAYAR=2A
; CURRENT APPLICATION NUMBER: US/09/698,134
; CURRENT FILING DATE: 2000-10-30
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; PRIOR APPLICATION NUMBER: 60/083,340
; PRIOR FILING DATE: 1998-04-28
; PRIOR APPLICATION NUMBER: PCT/US99/09160
; PRIOR FILING DATE: 1999-04-28
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic
; NAME/KEY: misc_feature
; LOCATION: (1)...(1)
; OTHER INFORMATION: Glu is modified with a pyro group.
; NAME/KEY: misc_feature
; LOCATION: (10)..(10)
; OTHER INFORMATION: Gly is modified with -NH2 group.
US-09-698-134-1

Query Match      88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY      1 EHWXGXKXPG 10
        |||||
Db      1 EHWXGGLRPG 10

RESULT 32
US-09-256-599-1
; Sequence 1, Application US/09256599
; Patent No. 6455499
; GENERAL INFORMATION:
; APPLICANT: Roeseke, Roger W.
; TITLE OF INVENTION: LHRH Antagonist Peptides
; FILE REFERENCE: PPI-007CUPUS
; CURRENT APPLICATION NUMBER: US/09/256,599
; CURRENT FILING DATE: 1999-02-23
; EARLIER APPLICATION NUMBER: 08/480,494
; EARLIER FILING DATE: 1995-06-07
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-256-599-1

Query Match      88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY      1 EHWXGXKXPG 10
        |||||
Db      1 EHWXGGLRPG 10

RESULT 33
US-09-639-483C-3
; Sequence 3, Application US/09639483C
; Patent No. 6506730
; GENERAL INFORMATION:
; APPLICANT: LEE, KANG CHON
; APPLICANT: LEE, MYUNG-OK
; TITLE OF INVENTION: THE NASAL TRANSMUCOSAL DELIVERY OF PEPTIDES
; TITLE OF INVENTION: CONJUGATED WITH BIOCOMPATIBLE POLYMERS
; FILE REFERENCE: 428,1002
; CURRENT APPLICATION NUMBER: US/09/639,483C
; CURRENT FILING DATE: 2000-08-15
; PRIOR APPLICATION NUMBER: KR99-33984
; PRIOR FILING DATE: 1999-08-17
; NUMBER OF SEQ ID NOS: 3
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; SOFTWARE: PatentIn version 2.1
; SEQ ID NO 3
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: LH-RH
US-09-639-483C-3

Query Match      88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY      1 EHWXGXKXPG 10
        |||||
Db      1 EHWXGGLRPG 10

RESULT 34
US-09-383-912-18
; Sequence 18, Application US/09383912
; Patent No. 6521746
; GENERAL INFORMATION:
; APPLICANT: POTTER, ANDREW A.
; APPLICANT: MANN, JOHN G.
; TITLE OF INVENTION: GnRH-LEUKOTOXIN CHIMERAS
; NUMBER OF SEQUENCES: 34
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: REED & ROBINS LLP
; STREET: 285 HAMILTON AVENUE, SUITE 200
; CITY: PALO ALTO
; STATE: CA
; COUNTRY: USA
; ZIP: 94301
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/383,912
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/694,865
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: MCCracken, Thomas P.
; REGISTRATION NUMBER: 38,548
; REFERENCE/DOCKET NUMBER: 9001-0016.22
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415)327-3400
; TELEFAX: (415)327-3231
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: 1
; OTHER INFORMATION: /note= "This position is pyroGlu."
US-09-383-912-18

Query Match      88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY      1 EHWXGXKXPG 10
        |||||
```

```
Db      1 EHSYGLRPG 10

RESULT 35
US-09-770-014-77
; Sequence 77, Application US/09770014
; Patent No. 6559282
; GENERAL INFORMATION:
; APPLICANT: Wang, Chang Yi
; TITLE OF INVENTION: NOVEL LHRH PEPTIDE
; NUMBER OF SEQUENCES: 106
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Morgan & Finnegan, L.L.P.
; STREET: 345 Park Avenue
; CITY: New York
; STATE: NY
; COUNTRY: USA
; ZIP: 10154-0054
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC Windows
; SOFTWARE: Word 97
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/770,014
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 09/100,414
; FILING DATE: 20-JUNE-1998
; ATTORNEY/AGENT INFORMATION:
; NAME: Maria H. Lin
; REGISTRATION NUMBER: 29,323
; REFERENCE/DOCKET NUMBER: 1151-4157
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-758-4800
; TELEFAX: 212-751-6849
; INFORMATION FOR SEQ ID NO: 77:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-09-770-014-77

Query Match      88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHSXGXXPG 10
Db      1 EHSYGLRPG 10

RESULT 36
US-09-525-007-1
; Sequence 1, Application US/09525007
; Patent No. 6627609
; GENERAL INFORMATION:
; APPLICANT: BERND, MICHAEL
; APPLICANT: KUTSCHER, BERNHARD
; APPLICANT: GUNTHER, ECKHARD
; APPLICANT: ROMEIS, PETER
; APPLICANT: REISSMANN, THOMAS
; TITLE OF INVENTION: NOVEL LHRH ANTAGONISTS HAVING IMPROVED SOLUBILITY
; FILE REFERENCE: MAS/098501/257744
; CURRENT APPLICATION NUMBER: US/09/525,007
; CURRENT FILING DATE: 2000-03-14
; PRIOR APPLICATION NUMBER: DE 199 11 771.3
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 1

Query Match      88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHSXGXXPG 10
Db      1 EHSYGLRPG 10

RESULT 37
US-09-964-201A-28
; Sequence 28, Application US/09964201A
; Patent No. 6660271
; GENERAL INFORMATION:
; APPLICANT: Kenten, John H
; APPLICANT: Tramontano, Alfonso
; APPLICANT: Pilon, Aprile L
; APPLICANT: Lohnas, Gerald L
; APPLICANT: Roberts, Steven F
; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
; FILE REFERENCE: U.S. Patent Application No. 6660271 09/025,276
; CURRENT APPLICATION NUMBER: US/09/964,201A
; CURRENT FILING DATE: 2002-05-21
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Porcine
; US-09-964-201A-28

Query Match      88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy      1 EHSXGXXPG 10
Db      1 EHSYGLRPG 10

RESULT 38
US-09-890-650-28
; Sequence 28, Application US/09890650
; Patent No. 6685947
; GENERAL INFORMATION:
; APPLICANT: JACKSON, DAVID CHARLES
; APPLICANT: SOURAVI, GHOSH
; APPLICANT: WALKER, JOHN
; TITLE OF INVENTION: T HELPER CELL EPITOPES
; FILE REFERENCE: 47-152
; CURRENT APPLICATION NUMBER: US/09/890,650
; CURRENT FILING DATE: 2001-11-05
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 28
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Canis sp.
; FEATURE:
; NAME/KEY: MOD_RES
; LOCATION: (1)
; OTHER INFORMATION: pyroglutamic acid
; US-09-890-650-28
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Query Match      88.0%; Score 44; DB 4; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSGXKXPG 10
Db 1 EHWSYGLRPG 10

RESULT 39
; Patent No. 5168061
; APPLICANT: Siler-Khodr, Theresa M.
; TITLE OF INVENTION: HUMAN CHORIONIC PEPTIDASE-1
; NUMBER OF SEQUENCES: 2
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/323,325
; FILING DATE: 14-MAR-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 863,310
; FILING DATE: 15-MAY-1986
; SEQ ID NO:1:
; LENGTH: 10
5168061-1

Query Match      88.0%; Score 44; DB 6; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSGXKXPG 10
Db 1 EHWSYGLRPG 10

RESULT 40
; Patent No. 5169865
; APPLICANT: ANANTHANARAYANAN, V.S.
; TITLE OF INVENTION: METHOD AND COMPOSITION FOR CALCIUM
; BINDING TRANSLOCATION AND MEDIATING
; NUMBER OF SEQUENCES: 12
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/323,421
; FILING DATE: 14-MAR-1989
; SEQ ID NO:10:
; LENGTH: 10
5169865-10

Query Match      88.0%; Score 44; DB 6; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSGXKXPG 10
Db 1 EHWSYGLRPG 10

RESULT 41
; Patent No. 5169935
; APPLICANT: HOEGER, CARL A.; THEOBALD, PAULA G.; PORTER,
; JOHN S.; RIVIER, JEAN E.F.
; TITLE OF INVENTION: METHOD OF MAKING PEPTIDES
; NUMBER OF SEQUENCES: 6
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/541,810
; FILING DATE: 20-JUN-1990
; SEQ ID NO:1:
; LENGTH: 10
5169935-1

Query Match      88.0%; Score 44; DB 6; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSGXKXPG 10
Db 1 EHWSYGLRPG 10

RESULT 42
; Patent No. 5488036
; APPLICANT: NETT, TORANCE M.; GLODE, LEONARD M.
; TITLE OF INVENTION: METHOD FOR STERILIZING ANIMALS USING
; HORMONE-TOXIN CONJUGATE COMPOUNDS
; NUMBER OF SEQUENCES: 5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/94,625
; FILING DATE: 20-JUL-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 837,639
; FILING DATE: 14-FEB-1992
; APPLICATION NUMBER: 314,653
; FILING DATE: 23-FEB-1992
; SEQ ID NO:1:
; LENGTH: 10
5488036-1

Query Match      88.0%; Score 44; DB 6; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSGXKXPG 10
Db 1 EHWSYGLRPG 10

RESULT 43
; Patent No. 5492893
; APPLICANT: NETT, TORANCE M.; GLODE, LEONARD M.
; TITLE OF INVENTION: HORMONE-TOXIN CONJUGATE COMPOUNDS
; NUMBER OF SEQUENCES: 4
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/94,250
; FILING DATE: 20-JUL-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 837,639
; FILING DATE: 14-FEB-1992
; APPLICATION NUMBER: 314,653
; FILING DATE: 23-FEB-1989
; SEQ ID NO:1:
; LENGTH: 10
5492893-1

Query Match      88.0%; Score 44; DB 6; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.043;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSGXKXPG 10
Db 1 EHWSYGLRPG 10

RESULT 44
; US-08-302-915-2
; Sequence 2, Application US/08302915
; Patent No. 5679355
; GENERAL INFORMATION:
; APPLICANT: Alexander, James
; APPLICANT: Brewer, James
; TITLE OF INVENTION: Vaccines Containing No. 5679355-Ionic Surfactant
; TITLE OF INVENTION: Vesicles
; NUMBER OF SEQUENCES: 2
```

;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: Pennie & Edmonds
;; STREET: 1155 Avenue of the Americas
;; CITY: New York
;; STATE: New York
;; COUNTRY: USA
;; ZIP: 10036-2711
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: Floppy disk
;; OPERATING SYSTEM: PC-DOS/MS-DOS
;; SOFTWARE: PatentIn Release #1.0, Version #1.30
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/302,915
;; FILING DATE: 19-SEP-1994
;; CLASSIFICATION: 424
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Panucci, Allan
;; REGISTRATION NUMBER: 30,256
;; REFERENCE/DOCKET NUMBER: 8080-008-999
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (212) 790-9090
;; TELEX: 66441 PENNIE
;; INFORMATION FOR SEQ ID NO: 2:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 12 amino acids
;; TYPE: amino acid
;; STRANDEDNESS: single
;; TOPOLOGY: linear
;; MOLECULE TYPE: peptide
US-08-302-915-2

Query Match 88.0%; Score 44; DB 1; Length 12;
Best Local Similarity 70.0%; Pred. No. 0.052; 3; Indels 0;
Matches 7; Conservative 0; Mismatches 3; Gaps 0;

Qy 1 EHWSXGXXPG 10
Db 1 EHWSYGLRPG 10

RESULT 45
US-07-690-983D-22
; Sequence 22, Application US/07690983D
; Patent No. 5403586
; GENERAL INFORMATION:
; APPLICANT: RUSSELL-JONES, Gregory J.
; APPLICANT: STEWART, Andrew G.
; APPLICANT: TSONIS, Con G.
; TITLE OF INVENTION: FUSION PROTEINS
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W.
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 24:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 14 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-690-983D-24

Query Match 88.0%; Score 44; DB 1; Length 14;
Best Local Similarity 70.0%; Pred. No. 0.06; 3; Indels 0;
Matches 7; Conservative 0; Mismatches 3; Gaps 0;

Qy 1 EHWSXGXXPG 10
Db 3 EHWSYGLRPG 12

;; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (202)672-5300
;; TELEFAX: (202)672-5399
;; INFORMATION FOR SEQ ID NO: 22:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 14 amino acids
;; TYPE: amino acid
;; TOPOLOGY: linear
;; MOLECULE TYPE: protein
US-07-690-983D-22

Query Match 88.0%; Score 44; DB 1; Length 14;
Best Local Similarity 70.0%; Pred. No. 0.06; 3; Indels 0;
Matches 7; Conservative 0; Mismatches 3; Gaps 0;

Qy 1 EHWSXGXXPG 10
Db 3 EHWSYGLRPG 12

RESULT 46
US-07-690-983D-24
; Sequence 24, Application US/07690983D
; Patent No. 5403586
; GENERAL INFORMATION:
; APPLICANT: RUSSELL-JONES, Gregory J.
; APPLICANT: STEWART, Andrew G.
; APPLICANT: TSONIS, Con G.
; TITLE OF INVENTION: FUSION PROTEINS
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W.
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 24:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 14 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-690-983D-24

Query Match 88.0%; Score 44; DB 1; Length 14;
Best Local Similarity 70.0%; Pred. No. 0.06; 3; Indels 0;
Matches 7; Conservative 0; Mismatches 3; Gaps 0;

Qy 1 EHWSXGXXPG 10
Db 3 EHWSYGLRPG 12

RESULT 47

US-07-690-983D-26
; Sequence 26, Application US/07690983D
; Patent No. 5403586
; GENERAL INFORMATION:
; APPLICANT: RUSSELL-JONES, Gregory J.
; APPLICANT: STEWART, Andrew G.
; APPLICANT: TSONIS, Con G.
; TITLE OF INVENTION: FUSION PROTEINS
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W.
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 26:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 14 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-690-983D-26

Qy

Db

RESULT 48

US-07-690-983D-30
; Sequence 30, Application US/07690983D
; Patent No. 5403586
; GENERAL INFORMATION:
; APPLICANT: RUSSELL-JONES, Gregory J.
; APPLICANT: STEWART, Andrew G.
; APPLICANT: TSONIS, Con G.
; TITLE OF INVENTION: FUSION PROTEINS
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W.
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 26:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 14 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-690-983D-30

Qy

Db

RESULT 49

US-07-690-983D-14
; Sequence 14, Application US/07690983D
; Patent No. 5403586
; GENERAL INFORMATION:
; APPLICANT: RUSSELL-JONES, Gregory J.
; APPLICANT: STEWART, Andrew G.
; APPLICANT: TSONIS, Con G.
; TITLE OF INVENTION: FUSION PROTEINS
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W.
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 16 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-690-983D-14

; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 30:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 14 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-690-983D-30

Query Match 88.0%; Score 44; DB 1; Length 14;
Best Local Similarity 70.0%; Pred. No. 0.06;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXPG 10

Db 3 EHWSYGLRPG 12

RESULT 49

US-07-690-983D-14
; Sequence 14, Application US/07690983D
; Patent No. 5403586
; GENERAL INFORMATION:
; APPLICANT: RUSSELL-JONES, Gregory J.
; APPLICANT: STEWART, Andrew G.
; APPLICANT: TSONIS, Con G.
; TITLE OF INVENTION: FUSION PROTEINS
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W.
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 16 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-690-983D-14

Qy 1 EHWSXGXPG 10

Db 3 EHWSYGLRPG 12

Wed Mar 3 08:43:40 2004

Query Match 88.0%; Score 44; DB 1; Length 16;
Best Local Similarity 70.0%; Pred. No. 0.069;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
DB 4 EHWYGLRPG 13

RESULT 50
US-07-690-983D-16
; Sequence 16, Application US/07690983D
; Patent No. 5403586
; GENERAL INFORMATION:
; APPLICANT: RUSSELL-JONES, Gregory J.
; APPLICANT: STEWART, Andrew G.
; APPLICANT: TSONIS, Con G.
; TITLE OF INVENTION: FUSION PROTEINS
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 3000 K Street, N.W.
; CITY: Washington, D.C.
; COUNTRY: USA
; ZIP: 20007-5109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/690,983D
; FILING DATE: 25-JUN-1991
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU90/00373
; FILING DATE: 24-AUG-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 16786/148 CHAC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202)672-5300
; TELEFAX: (202)672-5399
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 17 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-07-690-983D-16

Query Match 88.0%; Score 44; DB 1; Length 17;
Best Local Similarity 70.0%; Pred. No. 0.073;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
DB 5 EHWYGLRPG 14

Search completed: March 2, 2004, 19:28:55
Job time : 17 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 2, 2004, 19:25:48 ; Search time 27 Seconds
(without alignments)
78.205 Million cell updates/sec

Title: US-09-857-115-7
Perfect score: 50
Sequence: 1 EHWXGXKPG 10

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 809742 seqs, 211153259 residues

Total number of hits satisfying chosen parameters: 809742

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 500 summaries

Database : Published Applications AA:*
1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep.*
2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep.*
3: /cgn2_6/ptodata/2/pubpaa/US05_NEW_PUB.pep.*
4: /cgn2_6/ptodata/2/pubpaa/US05_PUBCOMB.pep.*
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7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep.*
8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep.*
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18: /cgn2_6/ptodata/2/pubpaa/US10F_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
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3	44	88.0	10	14	US-10-115-553-1
4	44	88.0	10	14	US-10-122-483-1
5	44	88.0	10	14	US-10-117-364-1
6	44	88.0	10	14	US-10-311-688-4
7	44	88.0	10	15	US-10-353-160A-1
8	44	88.0	10	16	US-10-298-378-1
9	44	88.0	10	16	US-10-298-851-1
10	44	88.0	10	17	US-09-305-924-3
11	44	88.0	20	10	US-09-964-201A-29
12	44	88.0	20	10	US-09-964-201A-30
13	44	88.0	20	10	US-09-964-201A-31
14	44	88.0	27	14	US-10-076-674-7
15	44	88.0	27	15	US-10-355-161A-7

16	44	88.0	45	14	US-10-076-674-8	Sequence 8, Appli
17	44	88.0	45	14	US-10-076-674-9	Sequence 9, Appli
18	44	88.0	45	15	US-10-355-161A-8	Sequence 8, Appli
19	44	88.0	45	15	US-10-355-161A-9	Sequence 9, Appli
20	41	82.0	10	9	US-09-019-010-2	Sequence 2, Appli
21	41	82.0	10	10	US-09-964-201A-32	Sequence 32, Appli
22	41	82.0	10	10	US-09-305-924-9	Sequence 9, Appli
23	41	82.0	10	14	US-10-351-641-1143	Sequence 1143, Ap
24	41	82.0	10	14	US-10-351-641-1309	Sequence 1309, Ap
25	41	82.0	10	14	US-10-351-641-1344	Sequence 1344, Ap
26	41	82.0	10	15	US-10-360-101-1	Sequence 1, Appli
27	41	82.0	10	15	US-10-360-101-299	Sequence 299, App
28	41	82.0	10	15	US-10-617-561-9	Sequence 9, Appli
29	41	82.0	11	13	US-10-044-034-17	Sequence 17, Appli
30	41	82.0	18	14	US-10-351-641-1146	Sequence 1146, Ap
31	41	82.0	18	14	US-10-351-641-1147	Sequence 1147, Ap
32	41	82.0	18	14	US-10-351-641-1148	Sequence 1148, Ap
33	41	82.0	18	14	US-10-351-641-1172	Sequence 1172, Ap
34	41	82.0	18	14	US-10-351-641-1173	Sequence 1173, Ap
35	41	82.0	20	10	US-09-964-201A-26	Sequence 26, Appli
36	41	82.0	22	14	US-10-351-641-1145	Sequence 1145, Ap
37	41	82.0	26	14	US-10-351-641-1144	Sequence 1144, Ap
38	41	82.0	33	15	US-10-617-561-3	Sequence 3, Appli
39	41	82.0	33	15	US-10-617-561-4	Sequence 4, Appli
40	41	82.0	40	10	US-09-964-201A-35	Sequence 35, Appli
41	41	82.0	41	10	US-09-964-201A-34	Sequence 34, Appli
42	41	82.0	49	9	US-09-019-010-4	Sequence 4, Appli
43	41	82.0	49	10	US-09-305-924-11	Sequence 11, Appli
44	41	82.0	695	10	US-09-305-924-13	Sequence 13, Appli
45	40	80.0	10	15	US-10-354-433-2	Sequence 2, Appli
46	40	80.0	10	15	US-10-360-101-2	Sequence 126, App
47	40	80.0	10	15	US-10-360-101-136	Sequence 136, App
48	40	80.0	10	15	US-10-360-101-166	Sequence 303, App
49	40	80.0	10	15	US-10-360-101-303	Sequence 304, App
50	40	80.0	10	15	US-10-360-101-304	Sequence 309, App
51	40	80.0	10	9	US-10-360-101-309	Sequence 1, Appli
52	39	78.0	10	10	US-09-810-601-1	Sequence 1, Appli
53	39	78.0	10	10	US-09-305-924-1	Sequence 153, App
54	39	78.0	10	15	US-10-360-101-153	Sequence 298, App
55	39	78.0	10	15	US-10-360-101-298	Sequence 301, App
56	39	78.0	10	15	US-10-360-101-301	Sequence 306, App
57	39	78.0	10	15	US-10-360-101-306	Sequence 1, Appli
58	39	78.0	10	15	US-10-617-561-17	Sequence 17, Appli
59	39	78.0	10	15	US-09-305-924-5	Sequence 5, Appli
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61	39	78.0	31	9	US-09-848-834A-15	Sequence 15, Appli
62	39	78.0	34	9	US-09-848-834A-13	Sequence 13, Appli
63	39	78.0	36	9	US-09-848-834A-16	Sequence 16, Appli
64	39	78.0	37	9	US-09-848-834A-14	Sequence 14, Appli
65	39	78.0	37	9	US-09-848-834A-19	Sequence 19, Appli
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67	39	78.0	47	9	US-09-848-834A-18	Sequence 18, Appli
68	39	78.0	50	9	US-09-848-834A-20	Sequence 20, Appli
69	39	78.0	51	9	US-09-848-834A-2	Sequence 138, App
70	38	76.0	10	15	US-10-360-101-138	Sequence 302, App
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72	38	76.0	10	15	US-10-617-561-18	Sequence 4, Appli
73	38	76.0	10	16	US-10-298-378-4	Sequence 4, Appli
74	38	76.0	10	16	US-10-298-851-4	Sequence 155, App
75	37	74.0	10	15	US-10-360-101-155	Sequence 2, Appli
76	37	74.0	10	16	US-10-298-378-2	Sequence 2, Appli
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78	36	72.0	10	9	US-09-941-094A-2	Sequence 4, Appli
79	36	72.0	10	9	US-09-941-094A-4	Sequence 3, Appli
80	36	72.0	10	14	US-10-311-688-3	Sequence 38872, A
81	36	72.0	68	9	US-09-864-761-38872	Sequence 2, Appli
82	36	72.0	383	9	US-09-147-346-2	Sequence 128, App
83	35	70.0	10	15	US-10-360-101-128	Sequence 520, App
84	35	70.0	82	9	US-09-764-847-520	Sequence 17445, A
85	35	70.0	82	14	US-10-092-154-520	Sequence 27, Appli
86	35	70.0	1072	15	US-10-369-493-17445	Sequence 29, Appli
87	34	68.0	10	15	US-10-170-096A-27	
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89	34	68.0	10	15	US-10-170-096A-31	Sequence 31, Appl	162	31	62.0	10	15	US-10-617-561-16	Sequence 16, Appl
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91	34	68.0	10	15	US-10-360-101-127	Sequence 127, App	164	31	62.0	33	9	US-09-864-761-36040	Sequence 36040, A
92	34	68.0	10	15	US-10-360-101-145	Sequence 145, App	165	31	62.0	79	9	US-09-879-957-126	Sequence 126, App
93	34	68.0	10	15	US-10-264-237-1426	Sequence 1426, Ap	166	31	62.0	79	9	US-09-796-692-1517	Sequence 1517, Ap
94	34	68.0	301	14	US-10-321-204-51	Sequence 51, Appl	167	31	62.0	79	9	US-09-796-692-1609	Sequence 1609, Ap
95	34	68.0	508	15	US-10-108-260A-2504	Sequence 2504, Ap	168	31	62.0	79	9	US-09-796-692-1747	Sequence 1747, Ap
96	34	68.0	2502	9	US-09-772-316-1	Sequence 1, Appli	169	31	62.0	79	9	US-09-796-692-1760	Sequence 1760, Ap
97	34	68.0	2502	14	US-10-600-058-1	Sequence 1, Appli	170	31	62.0	79	9	US-09-796-692-1944	Sequence 1944, Ap
98	34	68.0	8360	14	US-10-132-134-34	Sequence 34, Appl	171	31	62.0	79	9	US-09-796-692-1963	Sequence 1963, Ap
99	33	66.0	10	9	US-09-848-834A-1	Sequence 1, Appli	172	31	62.0	79	9	US-09-796-692-2029	Sequence 2029, Ap
100	33	66.0	10	9	US-09-810-601-2	Sequence 2, Appli	173	31	62.0	79	9	US-09-796-692-2042	Sequence 2042, Ap
101	33	66.0	10	9	US-09-810-601-3	Sequence 3, Appli	174	31	62.0	79	14	US-10-040-862-1509	Sequence 1517, Ap
102	33	66.0	10	9	US-09-810-601-4	Sequence 4, Appli	175	31	62.0	79	14	US-10-040-862-1609	Sequence 1609, Ap
103	33	66.0	10	13	US-10-109-331-2	Sequence 2, Appli	176	31	62.0	79	14	US-10-040-862-1747	Sequence 1747, Ap
104	33	66.0	10	15	US-10-170-096A-23	Sequence 23, Appl	177	31	62.0	79	14	US-10-040-862-1760	Sequence 1760, Ap
105	33	66.0	10	15	US-10-170-096A-25	Sequence 25, Appl	178	31	62.0	79	14	US-10-040-862-1944	Sequence 1944, Ap
106	33	66.0	10	15	US-10-170-096A-30	Sequence 30, Appl	179	31	62.0	79	14	US-10-040-862-1963	Sequence 1963, Ap
107	33	66.0	10	15	US-10-360-101-140	Sequence 140, App	180	31	62.0	79	14	US-10-040-862-2039	Sequence 2039, Ap
108	33	66.0	10	15	US-10-360-101-143	Sequence 143, App	181	31	62.0	79	14	US-10-040-862-2042	Sequence 2042, Ap
109	33	66.0	10	15	US-10-360-101-144	Sequence 144, App	182	31	62.0	79	14	US-10-057-475B-1517	Sequence 1517, Ap
110	33	66.0	10	15	US-10-360-101-160	Sequence 160, App	183	31	62.0	79	15	US-10-057-475B-1509	Sequence 1609, Ap
111	33	66.0	28	9	US-09-848-834A-11	Sequence 11, Appl	184	31	62.0	79	15	US-10-057-475B-1747	Sequence 1747, Ap
112	33	66.0	31	9	US-09-848-834A-9	Sequence 9, Appli	185	31	62.0	79	15	US-10-057-475B-1760	Sequence 1760, Ap
113	33	66.0	33	9	US-09-848-834A-10	Sequence 10, Appl	186	31	62.0	79	15	US-10-057-475B-1963	Sequence 1963, Ap
114	33	66.0	34	9	US-09-848-834A-12	Sequence 12, Appl	187	31	62.0	79	15	US-10-057-475B-2029	Sequence 2029, Ap
115	33	66.0	34	9	US-10-170-096A-6	Sequence 6, Appli	188	31	62.0	79	15	US-10-057-475B-2042	Sequence 2042, Ap
116	33	66.0	93	15	US-10-170-096A-8	Sequence 8, Appli	189	31	62.0	79	15	US-10-154-884B-1517	Sequence 1517, Ap
117	33	66.0	94	15	US-10-170-096A-2	Sequence 2, Appli	190	31	62.0	79	15	US-10-154-884B-1609	Sequence 1609, Ap
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119	33	66.0	331	14	US-10-156-761-8196	Sequence 6, Appli	192	31	62.0	79	15	US-10-154-884B-1944	Sequence 1944, Ap
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121	33	66.0	388	14	US-10-286-606-6	Sequence 6, Appli	194	31	62.0	79	15	US-10-154-884B-2042	Sequence 2042, Ap
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123	33	66.0	508	9	US-09-134-777-1	Sequence 1, Appli	197	31	62.0	117	9	US-10-106-698-4777	Sequence 4777, Ap
124	33	66.0	508	9	US-09-822-662-1	Sequence 1, Appli	198	31	62.0	121	14	US-10-106-698-4777	Sequence 4777, Ap
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126	33	66.0	622	9	US-09-895-606-2	Sequence 2, Appli	200	31	62.0	125	13	US-10-038-107A-4	Sequence 4, Appli
127	32	64.0	10	13	US-10-109-331-4	Sequence 4, Appli	201	31	62.0	125	13	US-10-371-069-20	Sequence 20, Appl
128	32	64.0	10	13	US-10-109-331-5	Sequence 5, Appli	202	31	62.0	152	15	US-10-371-069-20	Sequence 20, Appl
129	32	64.0	10	15	US-10-170-096A-26	Sequence 26, Appl	203	31	62.0	152	15	US-10-371-069-20	Sequence 20, Appl
130	32	64.0	10	15	US-10-170-096A-28	Sequence 28, Appl	204	31	62.0	156	15	US-10-108-260A-3817	Sequence 3817, Ap
131	32	64.0	10	15	US-10-170-096A-32	Sequence 32, Appl	205	31	62.0	182	9	US-09-879-957-200	Sequence 200, App
132	32	64.0	10	15	US-10-170-096A-33	Sequence 33, Appl	206	31	62.0	182	9	US-10-108-260A-4794	Sequence 4794, Ap
133	32	64.0	10	15	US-10-360-101-116	Sequence 116, App	207	31	62.0	212	15	US-10-421-138A-122	Sequence 122, App
134	32	64.0	10	15	US-10-360-101-157	Sequence 157, App	208	31	62.0	212	15	US-09-939-537-27	Sequence 27, Appl
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136	32	64.0	10	15	US-09-617-561-14	Sequence 14, Appl	210	31	62.0	228	11	US-10-079-130-4	Sequence 4, Appli
137	32	64.0	14	10	US-09-305-924-2	Sequence 2, Appli	211	31	62.0	229	13	US-10-038-107A-3	Sequence 3, Appli
138	32	64.0	16	9	US-09-758-128-53	Sequence 53, Appl	212	31	62.0	229	13	US-10-371-069-34	Sequence 34, Appl
139	32	64.0	16	9	US-09-916-940-89	Sequence 89, Appl	213	31	62.0	229	15	US-10-371-069-34	Sequence 34, Appl
140	32	64.0	16	9	US-09-758-426-53	Sequence 53, Appl	214	31	62.0	229	15	US-10-371-069-34	Sequence 34, Appl
141	32	64.0	16	9	US-09-758-198-53	Sequence 53, Appl	215	31	62.0	229	15	US-10-371-069-34	Sequence 34, Appl
142	32	64.0	16	10	US-09-861-661-53	Sequence 53, Appl	216	31	62.0	251	15	US-10-108-260A-4415	Sequence 4415, Ap
143	32	64.0	16	14	US-10-096-550-89	Sequence 89, Appl	217	31	62.0	255	14	US-10-203-708-45	Sequence 45, Appl
144	32	64.0	51	15	US-10-375-913-14	Sequence 14, Appl	218	31	62.0	257	10	US-09-925-299-891	Sequence 891, App
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146	32	64.0	417	15	US-10-369-493-4987	Sequence 4987, Ap	220	31	62.0	280	14	US-10-244-586-3	Sequence 3, Appli
147	32	64.0	421	14	US-10-021-723A-6	Sequence 6, Appli	221	31	62.0	298	14	US-10-235-026-2	Sequence 2, Appli
148	32	64.0	434	14	US-09-815-242-10441	Sequence 10441, A	222	31	62.0	355	14	US-10-235-026-2	Sequence 2, Appli
149	32	64.0	434	14	US-10-114-048-2	Sequence 2, Appli	223	31	62.0	468	9	US-09-764-868-655	Sequence 655, App
150	32	64.0	434	14	US-10-071-894-6	Sequence 6, Appli	224	31	62.0	496	15	US-10-369-493-20988	Sequence 20988, A
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154	32	64.0	1075	14	US-10-112-674-4	Sequence 4, Appli	228	31	62.0	697	15	US-10-181-638A-2	Sequence 2, Appli
155	32	64.0	2339	15	US-10-116-375-244	Sequence 244, App	229	31	62.0	742	14	US-10-203-850-4	Sequence 4, Appli
156	31	62.0	10	13	US-10-054-552-1	Sequence 1, Appli	230	31	62.0	788	9	US-09-879-957-30	Sequence 30, Appl
157	31	62.0	10	14	US-10-278-364A-9	Sequence 9, Appli	231	31	62.0	975	14	US-10-271-697-5	Sequence 5, Appli
158	31	62.0	10	14	US-10-181-638A-11	Sequence 11, Appl	232	31	62.0	1049	14	US-10-317-835-16	Sequence 16, Appl
159	31	62.0	10	15	US-10-360-101-137	Sequence 137, App	233	31	62.0	1060	14	US-09-954-342-46	Sequence 46, Appl
160	31	62.0	10	15	US-10-360-101-308	Sequence 308, App	234	31	62.0	1060	14	US-10-225-567A-408	Sequence 408, App
161	31	62.0	10	15	US-10-360-101-308	Sequence 308, App	234	31	62.0	1199	14	US-10-156-761-10084	Sequence 10084, A

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236	31	62.0	1464	9	US-09-746-390-2	Sequence 2, Appli	309	30	60.0	409	14	US-10-021-723A-8	Sequence 8, Appli
237	31	62.0	1464	15	US-10-607-095-21	Sequence 21, Appli	310	30	60.0	456	14	US-10-259-165-132	Sequence 132, Appl
238	31	62.0	19695	15	US-10-084-846A-3	Sequence 3, Appli	311	30	60.0	457	9	US-09-745-763-218	Sequence 218, Appl
239	30.5	61.0	747	9	US-09-874-069-6	Sequence 6, Appli	312	30	60.0	459	9	US-09-772-719-2	Sequence 2, Appli
240	30.5	61.0	988	9	US-09-874-069-4	Sequence 4, Appli	313	30	60.0	459	10	US-09-967-237-2	Sequence 2, Appli
241	30	60.0	9	9	US-09-746-945-2	Sequence 2, Appli	314	30	60.0	459	14	US-10-301-822-12	Sequence 12, Appli
242	30	60.0	10	15	US-10-360-101-114	Sequence 114, App	315	30	60.0	459	15	US-10-465-573-10	Sequence 10, Appl
243	30	60.0	10	15	US-10-360-101-154	Sequence 154, App	316	30	60.0	459	15	US-10-295-027-306	Sequence 306, Appl
244	30	60.0	18	14	US-10-225-567A-2244	Sequence 2244, Ap	317	30	60.0	459	15	US-10-295-027-1239	Sequence 1239, Ap
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248	30	60.0	92	15	US-10-170-036A-4	Sequence 4, Appli	321	30	60.0	568	14	US-09-991-053-3	Sequence 3, Appli
249	30	60.0	96	9	US-09-764-860-575	Sequence 575, App	322	30	60.0	603	14	US-10-301-260A-3	Sequence 3, Appli
250	30	60.0	96	9	US-09-764-904-57	Sequence 57, Appl	323	30	60.0	603	15	US-10-273-051-2	Sequence 2, Appli
251	30	60.0	96	14	US-10-091-548-57	Sequence 57, Appl	324	30	60.0	610	9	US-09-783-708-1	Sequence 1, Appli
252	30	60.0	96	14	US-10-074-095-575	Sequence 575, App	325	30	60.0	618	14	US-10-203-860-24	Sequence 24, Appli
253	30	60.0	96	15	US-10-212-872-575	Sequence 575, App	326	30	60.0	628	14	US-10-097-340-208	Sequence 208, App
254	30	60.0	170	9	US-09-772-719-54	Sequence 54, Appl	327	30	60.0	628	14	US-10-157-031-245	Sequence 245, App
255	30	60.0	205	9	US-09-234-717-19	Sequence 19, Appl	328	30	60.0	628	15	US-10-099-322-4	Sequence 4, Appli
256	30	60.0	205	14	US-10-185-567-19	Sequence 19, Appl	329	30	60.0	628	15	US-10-099-322-46	Sequence 46, Appl
257	30	60.0	222	14	US-10-238-075-587	Sequence 587, App	330	30	60.0	628	15	US-10-173-999-38	Sequence 38, Appli
258	30	60.0	224	14	US-10-156-761-11958	Sequence 11958, A	331	30	60.0	628	15	US-10-044-564-4	Sequence 4, Appli
259	30	60.0	227	15	US-09-934-455-100	Sequence 100, App	332	30	60.0	628	15	US-10-044-564-46	Sequence 46, Appli
260	30	60.0	227	15	US-10-225-068-58	Sequence 58, Appl	333	30	60.0	628	15	US-10-203-860-2	Sequence 2, Appli
261	30	60.0	227	15	US-10-374-780A-104	Sequence 104, App	334	30	60.0	742	14	US-10-308-448-11	Sequence 11, Appl
262	30	60.0	253	15	US-10-369-493-10635	Sequence 10635, A	335	30	60.0	742	15	US-10-341-434-85	Sequence 85, Appl
263	30	60.0	256	9	US-09-772-719-51	Sequence 51, Appl	336	30	60.0	742	15	US-10-389-566-1488	Sequence 1488, Ap
264	30	60.0	257	10	US-09-967-237-51	Sequence 51, Appl	337	30	60.0	778	16	US-10-389-566-1517	Sequence 1517, Ap
265	30	60.0	270	15	US-10-421-138A-118	Sequence 118, App	338	30	60.0	795	16	US-10-389-566-1517	Sequence 1517, Ap
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270	30	60.0	305	16	US-10-038-854-105	Sequence 105, App	343	30	60.0	1151	14	US-10-206-933-8	Sequence 10, Appli
271	30	60.0	308	14	US-10-017-161-768	Sequence 168, App	344	30	60.0	1467	14	US-10-017-161-2044	Sequence 2044, Ap
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273	30	60.0	341	15	US-09-769-734-58	Sequence 58, Appl	346	30	60.0	1563	15	US-10-334-143-34	Sequence 34, Appli
274	30	60.0	341	15	US-10-334-143-74	Sequence 74, Appl	347	30	60.0	1967	14	US-10-219-834-85	Sequence 85, Appl
275	30	60.0	342	14	US-10-092-135-2	Sequence 2, Appli	348	30	60.0	1967	14	US-10-225-567A-575	Sequence 575, App
276	30	60.0	342	14	US-10-223-085-28	Sequence 28, Appl	349	30	60.0	2092	14	US-10-147-026-12	Sequence 12, Appli
277	30	60.0	342	14	US-10-223-084-28	Sequence 28, Appl	350	30	60.0	2756	14	US-10-331-061-7	Sequence 7, Appli
278	30	60.0	342	14	US-10-223-080-28	Sequence 28, Appl	351	30	60.0	4307	15	US-10-369-493-5698	Sequence 5698, Ap
279	30	60.0	342	14	US-10-223-090-28	Sequence 28, Appl	352	30	60.0	4307	15	US-10-369-493-5699	Sequence 5699, Ap
280	30	60.0	342	14	US-10-223-087-28	Sequence 28, Appl	353	30	60.0	4307	15	US-10-369-493-5700	Sequence 5700, Ap
281	30	60.0	342	14	US-10-223-083-28	Sequence 28, Appl	354	30	60.0	6304	14	US-10-147-026-16	Sequence 16, Appli
282	30	60.0	342	14	US-10-223-089-28	Sequence 28, Appl	355	30	60.0	7349	14	US-10-314-657-46	Sequence 46, Appli
283	30	60.0	342	14	US-10-223-081-28	Sequence 28, Appl	356	30	60.0	7349	15	US-10-115-479-84	Sequence 84, Appli
284	30	60.0	342	14	US-10-223-082-28	Sequence 28, Appl	357	29.5	59.0	513	10	US-10-360-101-139	Sequence 139, Appl
285	30	60.0	346	9	US-09-862-274-2	Sequence 2, Appli	358	29	58.0	513	12	US-09-965-738-269	Sequence 269, App
286	30	60.0	346	9	US-09-942-374-2	Sequence 2, Appli	359	29	58.0	513	10	US-09-773-830-20	Sequence 20, Appli
287	30	60.0	346	10	US-09-886-041-2	Sequence 2, Appli	360	29	58.0	513	21	US-09-773-830-22	Sequence 22, Appli
288	30	60.0	346	10	US-09-782-974C-80	Sequence 80, Appli	361	29	58.0	513	11	US-09-764-877-1517	Sequence 1517, Ap
289	30	60.0	346	14	US-10-094-417-8	Sequence 8, Appli	362	29	58.0	47	15	US-10-242-515-1517	Sequence 1517, Ap
290	30	60.0	346	14	US-10-188-149A-2	Sequence 2, Appli	363	29	58.0	47	9	US-09-796-692-1197	Sequence 1197, Ap
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292	30	60.0	346	14	US-10-240-842-3	Sequence 2, Appli	365	29	58.0	50	9	US-09-796-692-1659	Sequence 2223, Ap
293	30	60.0	346	14	US-10-225-567A-668	Sequence 668, App	366	29	58.0	50	9	US-09-796-692-2223	Sequence 1197, Ap
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304	30	60.0	354	9	US-09-738-626-6529	Sequence 6529, Ap	377	29	58.0	55	9	US-10-001-870-163	Sequence 37529, A
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306	30	60.0	380	14	US-10-017-161-306	Sequence 2010, Ap	379	29	58.0	98	9	US-09-864-761-37529	Sequence 37529, A
307	30	60.0	380	15	US-10-292-798-1656	Sequence 1656, Ap	380	29	58.0	108	14	US-10-029-386-33930	Sequence 33930, A

381	29	58.0	109	14	US-10-106-698-4315	Sequence 4315, Ap	454	29	58.0	505	10	US-09-986-118A-2	Sequence 2, Appli
382	29	58.0	127	11	US-09-833-245-1766	Sequence 1766, Ap	455	29	58.0	505	15	US-10-367-095-6	Sequence 6, Appli
383	29	58.0	137	11	US-10-104-047-2374	Sequence 2374, Ap	456	29	58.0	507	15	US-10-369-493-8605	Sequence 8605, Ap
384	29	58.0	138	11	US-09-925-300-1617	Sequence 1617, Ap	457	29	58.0	513	15	US-10-369-493-3356	Sequence 3356, Ap
385	29	58.0	139	11	US-09-864-408A-6950	Sequence 6950, Ap	458	29	58.0	528	13	US-10-024-623-5	Sequence 5, Appli
386	29	58.0	144	15	US-10-094-749-2816	Sequence 2816, Ap	459	29	58.0	528	14	US-10-154-419-55	Sequence 55, Appli
387	29	58.0	150	9	US-09-860-670-140	Sequence 140, App	460	29	58.0	528	14	US-10-146-733-50	Sequence 50, Appli
388	29	58.0	150	10	US-09-764-891-4579	Sequence 4579, Ap	461	29	58.0	531	10	US-09-991-053-1	Sequence 1, Appli
389	29	58.0	150	15	US-10-227-646-140	Sequence 140, App	462	29	58.0	531	14	US-10-301-260A-1	Sequence 1, Appli
390	29	58.0	162	15	US-10-264-237-2532	Sequence 2532, Ap	463	29	58.0	547	14	US-10-108-260A-430	Sequence 430, Ap
391	29	58.0	163	11	US-09-997-003-30	Sequence 30, Appl	464	29	58.0	547	15	US-10-004-551-10	Sequence 10, Appl
392	29	58.0	166	11	US-09-997-003-43	Sequence 43, Appl	465	29	58.0	580	14	US-10-104-047-2876	Sequence 2876, Ap
393	29	58.0	172	14	US-10-156-761-12173	Sequence 12173, A	466	29	58.0	580	15	US-10-156-761-10688	Sequence 10688, A
394	29	58.0	174	9	US-09-925-301-1182	Sequence 1182, Ap	467	29	58.0	580	15	US-10-156-761-10531	Sequence 10531, A
395	29	58.0	174	9	US-09-925-301-1182	Sequence 1182, Ap	468	29	58.0	580	15	US-10-156-761-10531	Sequence 10531, A
396	29	58.0	185	9	US-09-764-870-355	Sequence 355, App	469	29	58.0	599	15	US-10-369-493-17162	Sequence 17162, A
397	29	58.0	185	9	US-09-764-870-355	Sequence 355, App	470	29	58.0	602	15	US-10-158-057-184	Sequence 184, App
398	29	58.0	185	9	US-09-764-853-471	Sequence 471, App	471	29	58.0	602	15	US-10-369-493-7132	Sequence 7132, Ap
399	29	58.0	185	14	US-10-125-540-355	Sequence 355, App	472	29	58.0	666	15	US-10-369-493-4378	Sequence 4378, Ap
400	29	58.0	185	14	US-10-103-313-302	Sequence 302, App	473	29	58.0	682	9	US-09-788-791-2	Sequence 2, Appli
401	29	58.0	185	15	US-10-158-057-285	Sequence 285, App	474	29	58.0	689	15	US-10-369-493-17280	Sequence 17280, A
402	29	58.0	198	15	US-10-264-049-3505	Sequence 3505, Ap	475	29	58.0	706	15	US-10-369-493-10838	Sequence 10838, A
403	29	58.0	221	14	US-10-156-761-12345	Sequence 12345, A	476	29	58.0	745	15	US-10-108-260A-4341	Sequence 4341, Ap
404	29	58.0	225	14	US-10-294-444-1	Sequence 1, Appli	477	29	58.0	815	15	US-10-369-493-4407	Sequence 4407, Ap
405	29	58.0	239	10	US-09-374-046A-158	Sequence 158, App	478	29	58.0	827	15	US-10-369-493-7163	Sequence 7163, Ap
406	29	58.0	247	10	US-09-933-767-1141	Sequence 1141, Ap	479	29	58.0	828	15	US-10-369-493-901	Sequence 901, App
407	29	58.0	247	14	US-10-023-282-1141	Sequence 1141, Ap	480	29	58.0	829	15	US-10-369-493-14754	Sequence 14754, A
408	29	58.0	249	10	US-09-880-748-1419	Sequence 1419, Ap	481	29	58.0	831	15	US-10-369-493-7854	Sequence 7854, Ap
409	29	58.0	255	10	US-09-866-050A-690	Sequence 690, App	482	29	58.0	834	15	US-10-369-493-11481	Sequence 11481, A
410	29	58.0	260	14	US-10-441-626-23	Sequence 23, Appl	483	29	58.0	836	15	US-10-369-493-9999	Sequence 9999, Ap
411	29	58.0	261	13	US-10-003-759-2	Sequence 2, Appli	484	29	58.0	850	15	US-10-369-493-15233	Sequence 15233, A
412	29	58.0	263	14	US-10-265-811-2	Sequence 11, Appli	485	29	58.0	897	15	US-10-320-797-3319	Sequence 3319, Ap
413	29	58.0	264	14	US-10-156-761-11351	Sequence 11351, A	486	29	58.0	922	15	US-10-369-493-14013	Sequence 14013, A
414	29	58.0	269	14	US-10-156-761-11107	Sequence 11107, A	487	29	58.0	1019	15	US-10-369-493-4940	Sequence 4940, Ap
415	29	58.0	273	15	US-10-108-260A-3955	Sequence 3955, Ap	488	29	58.0	1019	15	US-10-369-493-7698	Sequence 7698, Ap
416	29	58.0	293	14	US-10-017-161-2164	Sequence 2164, A	489	29	58.0	1020	15	US-10-369-493-14106	Sequence 14106, A
417	29	58.0	295	15	US-10-292-798-1810	Sequence 1810, Ap	490	29	58.0	1203	15	US-10-369-493-8333	Sequence 8333, Ap
418	29	58.0	295	15	US-10-108-260A-4304	Sequence 4304, Ap	491	29	58.0	1355	15	US-10-310-154-702	Sequence 702, App
419	29	58.0	299	10	US-09-809-391-396	Sequence 396, App	492	29	58.0	1355	15	US-10-369-493-1388	Sequence 1388, Ap
420	29	58.0	333	15	US-10-094-749-2203	Sequence 2203, Ap	493	29	58.0	2220	16	US-10-389-566-802	Sequence 802, App
421	29	58.0	339	10	US-09-934-455-492	Sequence 455, App	494	29	58.0	2710	14	US-10-011-366-6	Sequence 6, Appli
422	29	58.0	339	14	US-10-156-761-8365	Sequence 8365, Ap	495	29	58.0	2710	15	US-10-271-012-6	Sequence 6, Appli
423	29	58.0	339	14	US-10-156-761-9813	Sequence 9813, Ap	496	29	58.0	2710	15	US-10-354-774-6	Sequence 6, Appli
424	29	58.0	339	14	US-10-156-761-9813	Sequence 9813, Ap	497	29	58.0	2710	15	US-09-965-738-146	Sequence 146, App
425	29	58.0	342	9	US-09-738-626-5165	Sequence 5165, Ap	498	29	58.0	9799	10	US-09-965-738-162	Sequence 162, App
426	29	58.0	347	14	US-10-156-761-10951	Sequence 10851, A	499	29	58.0	11721	10	US-10-084-846A-5	Sequence 5, Appli
427	29	58.0	356	9	US-09-738-626-6756	Sequence 6756, Ap	500	29	58.0	19723	15	US-10-084-846A-4	Sequence 4, Appli
428	29	58.0	367	15	US-10-104-047-3653	Sequence 3653, Ap	501	29	58.0	19725	15	US-10-106-698-5904	Sequence 5904, Ap
429	29	58.0	382	15	US-10-369-493-22497	Sequence 22497, A	502	29	58.0	571	14		
430	29	58.0	385	13	US-10-000-512-14	Sequence 14, Appl	503	29	58.0				
431	29	58.0	385	15	US-10-074-566-14	Sequence 14, Appl	504	29	58.0				
432	29	58.0	385	15	US-10-074-566-49	Sequence 49, Appl	505	29	58.0				
433	29	58.0	385	15	US-10-074-566-78	Sequence 78, Appl	506	29	58.0				
434	29	58.0	393	15	US-10-094-749-1651	Sequence 1651, Ap	507	29	58.0				
435	29	58.0	403	14	US-10-156-761-8886	Sequence 8886, Ap	508	29	58.0				
436	29	58.0	424	10	US-09-809-391-555	Sequence 555, App	509	29	58.0				
437	29	58.0	424	10	US-09-882-171-555	Sequence 555, App	510	29	58.0				
438	29	58.0	429	15	US-10-369-493-17876	Sequence 17876, A	511	29	58.0				
439	29	58.0	431	10	US-09-986-480-189	Sequence 189, App	512	29	58.0				
440	29	58.0	442	10	US-09-866-050A-659	Sequence 659, App	513	29	58.0				
441	29	58.0	446	14	US-10-156-761-7892	Sequence 7892, Ap	514	29	58.0				
442	29	58.0	455	15	US-10-264-237-2641	Sequence 2641, Ap	515	29	58.0				
443	29	58.0	460	15	US-10-108-260A-3539	Sequence 3539, Ap	516	29	58.0				
444	29	58.0	474	16	US-10-354-437-32	Sequence 32, Appl	517	29	58.0				
445	29	58.0	476	14	US-10-168-651-12	Sequence 12, Appl	518	29	58.0				
446	29	58.0	477	15	US-10-369-493-18329	Sequence 18329, A	519	29	58.0				
447	29	58.0	484	15	US-10-369-493-2915	Sequence 2915, Ap	520	29	58.0				
448	29	58.0	498	15	US-10-369-493-17267	Sequence 17267, A	521	29	58.0				
449	29	58.0	498	15	US-10-369-493-19128	Sequence 19128, A	522	29	58.0				
450	29	58.0	505	14	US-10-224-999A-3459	Sequence 3459, Ap	523	29	58.0				
451	29	58.0	505	9	US-09-162-904A-3	Sequence 3, Appli	524	29	58.0				
452	29	58.0	505	9	US-09-162-904A-4	Sequence 4, Appli	525	29	58.0				
453	29	58.0	505	9	US-09-824-017-2	Sequence 2, Appli	526	29	58.0				

ALIGNMENTS

RESULT 1

US-09-964-201A-28
; Sequence 28, Application US/09964201A
; Publication No. US20030091575A1
; GENERAL INFORMATION:
; APPLICANT: Kanten, John H
; APPLICANT: Tramontano, Alfonso
; APPLICANT: Pilon, Aprile L
; APPLICANT: Lohnas, Gerald L
; APPLICANT: Roberts, Steven F
; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
; FILE REFERENCE: U.S. Patent Application No. US20030091575A1 09\026,276
; CURRENT FILING DATE: 2002-05-21
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 28
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Porcine

US-09-964-201A-28
; Sequence 2, Appli

Query Match 88.0%; Score 44; DB 10; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
||| |||
DB 1 EHWSYGLRPG 10

RESULT 2

US-10-184-126-1
; Sequence 1, Application US/10184126
; Publication No. US20020183257A1
; GENERAL INFORMATION:
; APPLICANT: EL TAYAR, Nabil
; APPLICANT: ZHAO, Xuan
; APPLICANT: BENTLEY, Michael D.
; TITLE OF INVENTION: PEG-LHRH ANALOG CONJUGATES
; FILE REFERENCE: EL-TAYAR=2A
; CURRENT APPLICATION NUMBER: US/10/184,126
; CURRENT FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: US/09/698,134
; PRIOR FILING DATE: 2000-10-30
; PRIOR APPLICATION NUMBER: 60/083,340
; PRIOR FILING DATE: 1998-04-28
; PRIOR APPLICATION NUMBER: PCT/US99/09160
; PRIOR FILING DATE: 1999-04-28
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic
; NAME/KEY: misc feature
; LOCATION: (1)..(1)
; OTHER INFORMATION: Glu is modified with a pyro group.
; FEATURE:
; NAME/KEY: misc feature
; LOCATION: (10)..(10)
; OTHER INFORMATION: Gly is modified with -NH2 group.
US-10-184-126-1

Query Match 88.0%; Score 44; DB 13; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
||| |||
DB 1 EHWSYGLRPG 10

RESULT 3

US-10-115-553-1
; Sequence 1, Application US/10115553
; Publication No. US20030040482A1
; GENERAL INFORMATION:
; APPLICANT: Roeseke, Roger W.
; TITLE OF INVENTION: LHRH Antagonist Peptides
; FILE REFERENCE: PPI-007CPUS
; CURRENT APPLICATION NUMBER: US/10/115,553
; CURRENT FILING DATE: 2002-04-02
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 08/973,378
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-04-06
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 08/480,494
; PRIOR FILING DATE: EARLIER FILING DATE: 1993-06-07
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 10

; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-115-553-1

Query Match 88.0%; Score 44; DB 14; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
||| |||
DB 1 EHWSYGLRPG 10

RESULT 4

US-10-122-483-1
; Sequence 1, Application US/10122483
; Publication No. US20030044936A1
; GENERAL INFORMATION:
; APPLICANT: Hwang, Jaulang
; APPLICANT: Heu, Chia-Tee
; APPLICANT: Ting, Chun-Jen
; TITLE OF INVENTION: PEPTIDE REPEAT IMMUNOGENS
; FILE REFERENCE: 08919-071001
; CURRENT APPLICATION NUMBER: US/10/122,483
; CURRENT FILING DATE: 2002-07-15
; PRIOR APPLICATION NUMBER: 09/412,558
; PRIOR FILING DATE: 1999-10-05
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-122-483-1

Query Match 88.0%; Score 44; DB 14; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
||| |||
DB 1 EHWSYGLRPG 10

RESULT 5

US-10-117-364-1
; Sequence 1, Application US/10117364
; Publication No. US20030181385A1
; GENERAL INFORMATION:
; APPLICANT: Roeseke, Roger W.
; TITLE OF INVENTION: LHRH Antagonist Peptides
; FILE REFERENCE: PPI-007CPUS
; CURRENT APPLICATION NUMBER: US/10/117,364
; CURRENT FILING DATE: 2002-04-05
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 08/973,378
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-04-06
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 08/480,494
; PRIOR FILING DATE: EARLIER FILING DATE: 1993-06-07
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-117-364-1

Query Match 88.0%; Score 44; DB 14; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
||| |||
DB 1 EHWSYGLRPG 10

RESULT 6

US-10-311-688-4
; Sequence 4, Application US/10311688
; Publication No. US20030191164A1
; GENERAL INFORMATION:
; APPLICANT: Yamanouchi Pharmaceutical Co., Ltd.
; TITLE OF INVENTION: PROSPAN-1,3-DIONE DERIVATIVE
; FILE REFERENCE: Q73475
; CURRENT APPLICATION NUMBER: US/10/311,688
; PRIOR FILING DATE: 2002-12-19
; PRIOR APPLICATION NUMBER: JPA P. 2000-204425
; PRIOR FILING DATE: 2000-07-05
; PRIOR FILING DATE: 2001-05-23
; PRIOR APPLICATION NUMBER: PCT/JP01/05813
; PRIOR FILING DATE: 2001-05-23
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: Patent in version 3.2
; SEQ ID NO 4
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-311-688-4

Query Match 88.0%; Score 44; DB 14; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
||| |
Db 1 EHWYGLRPG 10

RESULT 7

US-10-353-160A-1
; Sequence 1, Application US/10353160A
; Publication No. US20040010033A1
; GENERAL INFORMATION:
; APPLICANT: Agouron Pharmaceuticals, Inc./A Pfizer Company
; TITLE OF INVENTION: No. US20040010033A1-Peptide GnRH Agonists, Methods And Intermediate
; FILE REFERENCE: 0059-02-US
; CURRENT APPLICATION NUMBER: US/10/353,160A
; PRIOR FILING DATE: 2003-01-27
; PRIOR APPLICATION NUMBER: 09/763,216
; PRIOR FILING DATE: 2001-02-20
; PRIOR APPLICATION NUMBER: 60/097,520
; PRIOR FILING DATE: 1998-08-20
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Gonadotropin-releasing hormone, also known as luteinizing hormone
; OTHER INFORMATION: -releasing hormone, which plays a central role in the biology of
; OTHER INFORMATION: reproduction.
US-10-353-160A-1

Query Match 88.0%; Score 44; DB 15; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
||| |
Db 1 EHWYGLRPG 10

RESULT 8

US-10-298-378-1
; Sequence 1, Application US/10298378

Publication No. US20040022739A1
; GENERAL INFORMATION:
; APPLICANT: Daniels, John
; APPLICANT: Pike, Malcolm
; APPLICANT: Spicer, Darcy
; APPLICANT: Daniels, AnnaMarie
; TITLE OF INVENTION: Nasal Spray Formulation and Method
; FILE REFERENCE: 38931.8002.US00
; CURRENT APPLICATION NUMBER: US/10/298,378
; CURRENT FILING DATE: 2002-11-15
; PRIOR APPLICATION NUMBER: US 60/400,575
; PRIOR FILING DATE: 2002-08-02
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic
; NAME/KEY: VARIANT
; LOCATION: 10
; OTHER INFORMATION: amino acid linked to NH2
US-10-298-378-1

Query Match 88.0%; Score 44; DB 16; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
||| |
Db 1 EHWYGLRPG 10

RESULT 9

US-10-298-851-1
; Sequence 1, Application US/10298851
; Publication No. US20040023867A1
; GENERAL INFORMATION:
; APPLICANT: Daniels, AnnaMarie
; APPLICANT: Daniels, John
; APPLICANT: Pike, Malcolm
; APPLICANT: Spicer, Darcy
; TITLE OF INVENTION: Methods and Compositions for Treating
; TITLE OF INVENTION: Benign Gynecological Disorders
; FILE REFERENCE: 38931.8001.US00
; CURRENT APPLICATION NUMBER: US/10/298,851
; CURRENT FILING DATE: 2002-11-15
; PRIOR APPLICATION NUMBER: US 60/400,626
; PRIOR FILING DATE: 2002-08-02
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic
; NAME/KEY: VARIANT
; LOCATION: 10
; OTHER INFORMATION: amino acid linked to NH2
US-10-298-851-1

Query Match 88.0%; Score 44; DB 16; Length 10;
Best Local Similarity 70.0%; Pred. No. 0.31;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKXPG 10
||| |
Db 1 EHWYGLRPG 10

; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
 ; FILE REFERENCE: U.S. Patent Application No. US20030091575A1 09\026,276
 ; CURRENT APPLICATION NUMBER: US/09/964,201A
 ; CURRENT FILING DATE: 2002-05-21
 ; NUMBER OF SEQ ID NOS: 35
 ; SOFTWARE: PatentIn Ver. 2.0
 ; SEQ ID NO 30
 ; LENGTH: 20
 ; TYPE: PRT
 ; ORGANISM: Porcine
 ; US-09-964-201A-30

Query Match 88.0%; Score 44; DB 10; Length 20;
 Best Local Similarity 70.0%; Pred. No. 0.58;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 |||||
 DB 1 EHWSYGLRPG 10

RESULT 13

US-09-964-201A-31
 ; Sequence 31, Application US/09964201A
 ; Publication No. US20030091575A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Kenten, John H
 ; APPLICANT: Tramontano, Alfonso
 ; APPLICANT: Pilon, Aprile L
 ; APPLICANT: Lohnas, Gerald L
 ; APPLICANT: Roberts, Steven F
 ; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
 ; FILE REFERENCE: U.S. Patent Application No. US20030091575A1 09\026,276
 ; CURRENT APPLICATION NUMBER: US/09/964,201A
 ; CURRENT FILING DATE: 2002-05-21
 ; NUMBER OF SEQ ID NOS: 35
 ; SOFTWARE: PatentIn Ver. 2.0
 ; SEQ ID NO 31
 ; LENGTH: 20
 ; TYPE: PRT
 ; ORGANISM: Porcine
 ; US-09-964-201A-31

Query Match 88.0%; Score 44; DB 10; Length 20;
 Best Local Similarity 70.0%; Pred. No. 0.58;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 |||||
 DB 11 EHWSYGLRPG 20

RESULT 14

US-10-076-674-7
 ; Sequence 7, Application US/10076674
 ; Publication No. US20030165478A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Sokoll, Kenneth K.
 ; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
 ; FILE REFERENCE: Immunogen Delivery System
 ; CURRENT APPLICATION NUMBER: US/10/076,674
 ; CURRENT FILING DATE: 2002-04-23
 ; NUMBER OF SEQ ID NOS: 11
 ; SOFTWARE: PatentIn version 3.1
 ; SEQ ID NO 7
 ; LENGTH: 27
 ; TYPE: PRT
 ; ORGANISM: Human
 ; US-10-076-674-7

Query Match 88.0%; Score 44; DB 14; Length 27;
 Best Local Similarity 70.0%; Pred. No. 0.76;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

RESULT 10

US-09-305-924-3
 ; Sequence 3, Application US/09305924A
 ; Publication No. US20030091579A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Jack G. Manns
 ; APPLICANT: Stephen D. Acres
 ; APPLICANT: Richard Harland
 ; TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
 ; FILE REFERENCE: 9001-0048
 ; CURRENT APPLICATION NUMBER: US/09/305,924A
 ; CURRENT FILING DATE: 1999-05-05
 ; EARLIER APPLICATION NUMBER: US 60/084,217
 ; EARLIER FILING DATE: 1998-05-05
 ; NUMBER OF SEQ ID NOS: 14
 ; SOFTWARE: PatentIn Ver. 2.0
 ; SEQ ID NO 3
 ; LENGTH: 17
 ; TYPE: PRT
 ; ORGANISM: GnrH
 ; US-09-305-924-3

Query Match 88.0%; Score 44; DB 10; Length 17;
 Best Local Similarity 70.0%; Pred. No. 0.5;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 |||||
 DB 8 EHWSYGLRPG 17

RESULT 11

US-09-964-201A-29
 ; Sequence 29, Application US/09964201A
 ; Publication No. US20030091575A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Kenten, John H
 ; APPLICANT: Tramontano, Alfonso
 ; APPLICANT: Pilon, Aprile L
 ; APPLICANT: Lohnas, Gerald L
 ; APPLICANT: Roberts, Steven F
 ; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
 ; FILE REFERENCE: U.S. Patent Application No. US20030091575A1 09\026,276
 ; CURRENT APPLICATION NUMBER: US/09/964,201A
 ; CURRENT FILING DATE: 2002-05-21
 ; NUMBER OF SEQ ID NOS: 35
 ; SOFTWARE: PatentIn Ver. 2.0
 ; SEQ ID NO 29
 ; LENGTH: 20
 ; TYPE: PRT
 ; ORGANISM: Porcine
 ; US-09-964-201A-29

Query Match 88.0%; Score 44; DB 10; Length 20;
 Best Local Similarity 70.0%; Pred. No. 0.58;
 Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXGXP 10
 |||||
 DB 1 EHWSYGLRPG 10

RESULT 12

US-09-964-201A-30
 ; Sequence 30, Application US/09964201A
 ; Publication No. US20030091575A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Kenten, John H
 ; APPLICANT: Tramontano, Alfonso
 ; APPLICANT: Pilon, Aprile L
 ; APPLICANT: Lohnas, Gerald L
 ; APPLICANT: Roberts, Steven F

```
QY 1 EHWXGXPG 10
Db 18 EHWYGLRPG 27

RESULT 15
US-10-355-161A-7
; Sequence 9, Application US/10355161A
; Publication No. US20040009897A1
; GENERAL INFORMATION:
; APPLICANT: Sokoll, Kenneth K.
; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
; FILE REFERENCE: Immunogen Delivery System
; CURRENT APPLICATION NUMBER: US/10/355,161A
; CURRENT FILING DATE: 2003-01-31
; PRIOR APPLICATION NUMBER: US 10/076674
; PRIOR FILING DATE: 2002-02-14
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 7
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Human
US-10-355-161A-7

Query Match 88.0%; Score 44; DB 15; Length 27;
Best Local Similarity 70.0%; Pred. No. 0.76;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXPG 10
Db 18 EHWYGLRPG 27

RESULT 16
US-10-076-674-8
; Sequence 8, Application US/10076674
; Publication No. US20030165478A1
; GENERAL INFORMATION:
; APPLICANT: Sokoll, Kenneth K.
; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
; FILE REFERENCE: Immunogen Delivery System
; CURRENT APPLICATION NUMBER: US/10/076,674
; CURRENT FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 8
; LENGTH: 45
; TYPE: PRT
; ORGANISM: Human
US-10-076-674-8

Query Match 88.0%; Score 44; DB 14; Length 45;
Best Local Similarity 70.0%; Pred. No. 1.2;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXPG 10
Db 36 EHWYGLRPG 45

RESULT 17
US-10-076-674-9
; Sequence 9, Application US/10076674
; Publication No. US20030165478A1
; GENERAL INFORMATION:
; APPLICANT: Sokoll, Kenneth K.
; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
; FILE REFERENCE: Immunogen Delivery System
; CURRENT APPLICATION NUMBER: US/10/076,674
; CURRENT FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 11
```

```
QY 1 EHWXGXPG 10
Db 18 EHWYGLRPG 27

RESULT 15
US-10-355-161A-7
; Sequence 9, Application US/10355161A
; Publication No. US20040009897A1
; GENERAL INFORMATION:
; APPLICANT: Sokoll, Kenneth K.
; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
; FILE REFERENCE: Immunogen Delivery System
; CURRENT APPLICATION NUMBER: US/10/355,161A
; CURRENT FILING DATE: 2003-01-31
; PRIOR APPLICATION NUMBER: US 10/076674
; PRIOR FILING DATE: 2002-02-14
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 7
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Human
US-10-355-161A-7

Query Match 88.0%; Score 44; DB 15; Length 27;
Best Local Similarity 70.0%; Pred. No. 0.76;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXPG 10
Db 18 EHWYGLRPG 27

RESULT 16
US-10-076-674-8
; Sequence 8, Application US/10076674
; Publication No. US20030165478A1
; GENERAL INFORMATION:
; APPLICANT: Sokoll, Kenneth K.
; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
; FILE REFERENCE: Immunogen Delivery System
; CURRENT APPLICATION NUMBER: US/10/076,674
; CURRENT FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 8
; LENGTH: 45
; TYPE: PRT
; ORGANISM: Human
US-10-076-674-8

Query Match 88.0%; Score 44; DB 14; Length 45;
Best Local Similarity 70.0%; Pred. No. 1.2;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXPG 10
Db 36 EHWYGLRPG 45

RESULT 17
US-10-076-674-9
; Sequence 9, Application US/10076674
; Publication No. US20030165478A1
; GENERAL INFORMATION:
; APPLICANT: Sokoll, Kenneth K.
; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
; FILE REFERENCE: Immunogen Delivery System
; CURRENT APPLICATION NUMBER: US/10/076,674
; CURRENT FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 11
```

```
QY 1 EHWXGXPG 10
Db 36 EHWYGLRPG 45

RESULT 18
US-10-355-161A-8
; Sequence 8, Application US/10355161A
; Publication No. US20040009897A1
; GENERAL INFORMATION:
; APPLICANT: Sokoll, Kenneth K.
; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
; FILE REFERENCE: Immunogen Delivery System
; CURRENT APPLICATION NUMBER: US/10/355,161A
; CURRENT FILING DATE: 2003-01-31
; PRIOR APPLICATION NUMBER: US 10/076674
; PRIOR FILING DATE: 2002-02-14
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 8
; LENGTH: 45
; TYPE: PRT
; ORGANISM: Human
US-10-355-161A-8

Query Match 88.0%; Score 44; DB 15; Length 45;
Best Local Similarity 70.0%; Pred. No. 1.2;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXPG 10
Db 36 EHWYGLRPG 45

RESULT 19
US-10-355-161A-9
; Sequence 9, Application US/10355161A
; Publication No. US20040009897A1
; GENERAL INFORMATION:
; APPLICANT: Sokoll, Kenneth K.
; TITLE OF INVENTION: Stabilized Synthetic Immunogen Delivery System
; FILE REFERENCE: Immunogen Delivery System
; CURRENT APPLICATION NUMBER: US/10/355,161A
; CURRENT FILING DATE: 2003-01-31
; PRIOR APPLICATION NUMBER: US 10/076674
; PRIOR FILING DATE: 2002-02-14
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 9
; LENGTH: 45
; TYPE: PRT
; ORGANISM: Human
US-10-355-161A-9

Query Match 88.0%; Score 44; DB 15; Length 45;
Best Local Similarity 70.0%; Pred. No. 1.2;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXPG 10
Db 36 EHWYGLRPG 45
```

RESULT 20
US-09-019-010-2
; Sequence 2, Application US/09019010
; Patent No. US20010014330A1
; GENERAL INFORMATION:
; APPLICANT: HARLAND, RICHARD
; APPLICANT: MANN, JOHN G.
; APPLICANT: ACRES, STEPHEN D.
; TITLE OF INVENTION: IMMUNIZATION AGAINST ENDOGENOUS
; MOLECULES
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ROBINS & ASSOCIATES
; STREET: 90 MIDDLEFIELD ROAD, SUITE 200
; CITY: MENLO PARK
; STATE: CA
; COUNTRY: USA
; ZIP: 94025
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/019,010
; FILING DATE: 05-FEB-1998
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/036,883
; FILING DATE: 05-FEB-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: MCCracken, THOMAS P.
; REGISTRATION NUMBER: 38,548
; REFERENCE/DOCKET NUMBER: 9001-0035
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (650) 325-7812
; TELEFAX: (650) 325-7823
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 10 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-019-010-2

Query Match 82.0%; Score 41; DB 9; Length 10;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
:|||||
DB 1 QHWSYGLRPG 10

RESULT 21
US-09-964-201A-32
; Sequence 32, Application US/09964201A
; Publication No. US20030091575A1
; GENERAL INFORMATION:
; APPLICANT: Kerten, John H
; APPLICANT: Tramotoano, Alfonso
; APPLICANT: Pilon, Aprile L
; APPLICANT: Lohns, Gerald L
; APPLICANT: Roberts, Steven F
; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
; FILE REFERENCE: U.S. Patent Application No. US20030091575A1 09\026,276
; CURRENT APPLICATION NUMBER: US/09/964,201A
; CURRENT FILING DATE: 2002-05-21
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 32
; LENGTH: 10

; TYPE: PRT
; ORGANISM: Porcine
US-09-964-201A-32

Query Match 82.0%; Score 41; DB 10; Length 10;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
:|||||
DB 1 QHWSYGLRPG 10

RESULT 22
US-09-305-924-9
; Sequence 9, Application US/09305924A
; Publication No. US20030091579A1
; GENERAL INFORMATION:
; APPLICANT: Jack G. Manns
; APPLICANT: Stephen D. Acres
; APPLICANT: Richard Harland
; TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
; FILE REFERENCE: 9001-0048
; CURRENT APPLICATION NUMBER: US/09/305,924A
; CURRENT FILING DATE: 1999-05-05
; EARLIER APPLICATION NUMBER: US 60/084,217
; EARLIER FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
; LENGTH: 10
; TYPE: PRT
; ORGANISM: GnRH
US-09-305-924-9

Query Match 82.0%; Score 41; DB 10; Length 10;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
:|||||
DB 1 QHWSYGLRPG 10

RESULT 23
US-10-351-641-1143
; Sequence 1143, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; PROPERTIES
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; CURRENT FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1143
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide

US-10-351-641-1143
; Sequence 1143, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; PROPERTIES
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; CURRENT FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1143
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide

```
US-10-351-641-1143
Query Match      82.0%; Score 41; DB 14; Length 10;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
Db 1 QHWSYGLRPG 10

RESULT 24
US-10-351-641-1309
; Sequence 1309, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; TITLE OF INVENTION: PROPERTIES
; FILE REFERENCE: 7872-100
; CURRENT FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1309
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide
US-10-351-641-1309

Query Match      82.0%; Score 41; DB 14; Length 10;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
Db 1 QHWSYGLRPG 10

RESULT 25
US-10-351-641-1344
; Sequence 1344, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; TITLE OF INVENTION: PROPERTIES
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; CURRENT FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
```

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; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 1344
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide
US-10-351-641-1344

Query Match      82.0%; Score 41; DB 14; Length 10;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
Db 1 QHWSYGLRPG 10

RESULT 26
US-10-360-101-1
; Sequence 1, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 1
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: LHRH1 sequence
US-10-360-101-1

Query Match      82.0%; Score 41; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
Db 1 QHWSYGLRPG 10

RESULT 27
US-10-360-101-299
; Sequence 299, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 299
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: LHRH1 analogue
US-10-360-101-299
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Query Match 82.0%; Score 41; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
:|||||
DB 1 QHWSYGLRPG 10

RESULT 28

US-10-617-561-9
; Sequence 9, Application US/10617561
; Publication No. US20040018967A1
; GENERAL INFORMATION:

APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors

Enright, Frederick M.
Jaynes, Jesse M.
Hansel, William
Koonce, Kenneth L.
McCann, Samuel M.
Yu, Wen H.
Melrose, Patricia A.
Foil, Lane D.
Elzer, Philip H.

TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and

Methods of Use

NUMBER OF SEQUENCES: 18

CORRESPONDENCE ADDRESS:

ADDRESSEE: John H. Runnels

STREET: P. O. Box 2471

CITY: Baton Rouge

STATE: LA

COUNTRY: USA

ZIP: 70821-2471

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/617,561

FILING DATE: 11-Jul-2003

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/09/381,879

FILING DATE: 25-Aug-1999

ATTORNEY/AGENT INFORMATION:

NAME: Runnels, John H.

REGISTRATION NUMBER: 33,451

REFERENCE/DOCKET NUMBER: 96A3.2-US

TELECOMMUNICATION INFORMATION:

TELEPHONE: (225) 387-3221

TELEFAX: (225) 346-8049

INFORMATION FOR SEQ ID NO: 9:

SEQUENCE CHARACTERISTICS:

LENGTH: 10 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide

FEATURE:

NAME/KEY: Peptide

LOCATION: 1..10

OTHER INFORMATION: /note= "This sequence is a modified

GnRH."

SEQUENCE DESCRIPTION: SEQ ID NO: 9:

US-10-617-561-9

Query Match 82.0%; Score 41; DB 15; Length 10;

Best Local Similarity 60.0%; Pred. No. 1;

Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
:|||||

Db 1 QHWSYGLRPG 10

RESULT 29

US-10-044-034-17
; Sequence 17, Application US/10044034
; Publication No. US20020169264A1
; GENERAL INFORMATION:

APPLICANT: JACKSON, DAVID C.

APPLICANT: O'BRIEN-SIMPSON, NEIL M.

APPLICANT: BROWN, LORENA E.

APPLICANT: EDE, NICHOLAS J.

APPLICANT: BRANDT, EVELYN R.

APPLICANT: GOOD, MICHAEL F.

TITLE OF INVENTION: POLYMERS INCORPORATING PEPTIDES

FILE REFERENCE: PBR006

CURRENT APPLICATION NUMBER: US/10/044,034

CURRENT FILING DATE: 2002-01-11

PRIOR APPLICATION NUMBER: P05071

PRIOR FILING DATE: 1997-02-11

NUMBER OF SEQ ID NOS: 28

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 17

LENGTH: 11

TYPE: PRT

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: Description of Artificial Sequence: Synthetic

OTHER INFORMATION: Peptides

US-10-044-034-17

Query Match 82.0%; Score 41; DB 13; Length 11;

Best Local Similarity 60.0%; Pred. No. 1.1;

Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWXGXKPG 10
:|||||

Db 2 QHWSYGLRPG 11

RESULT 30

US-10-351-641-1146

; Sequence 1146, Application US/10351641

; Publication No. US20030186874A1

; GENERAL INFORMATION:

APPLICANT: Barney, S.

APPLICANT: Guthrie, K.

APPLICANT: Merutka, G.

APPLICANT: Anwer, M.

APPLICANT: Lambert, D.

TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC

FILE REFERENCE: 7872-100

CURRENT APPLICATION NUMBER: US/10/351,641

CURRENT FILING DATE: 2003-01-24

PRIOR APPLICATION NUMBER: 09/350,641

PRIOR FILING DATE: 1999-07-09

PRIOR APPLICATION NUMBER: 09/315,304

PRIOR FILING DATE: 1999-05-20

PRIOR APPLICATION NUMBER: 09/082,279

PRIOR FILING DATE: 1998-05-20

NUMBER OF SEQ ID NOS: 1757

SOFTWARE: FastSeq for Windows Version 3.0

SEQ ID NO 1146

LENGTH: 18

TYPE: PRT

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: Core polypeptide

US-10-351-641-1146

Query Match 82.0%; Score 41; DB 14; Length 18;

Best Local Similarity 60.0%; Pred. No. 1.7;

Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPG 10
:|||||
Db 5 QHWSYGLRPG 14

RESULT 31

US-10-351-641-1147
; Sequence 1147, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; PRIOR FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1147
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide
US-10-351-641-1147

Query Match 82.0%; Score 41; DB 14; Length 18;

Best Local Similarity 60.0%; Pred. NO. 1.7;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPG 10
:|||||
Db 5 QHWSYGLRPG 14

RESULT 32

US-10-351-641-1148
; Sequence 1148, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; PRIOR FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1148
; LENGTH: 18
; TYPE: PRT

; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide
US-10-351-641-1148

Query Match 82.0%; Score 41; DB 14; Length 18;
Best Local Similarity 60.0%; Pred. NO. 1.7;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPG 10
:|||||
Db 5 QHWSYGLRPG 14

RESULT 33

US-10-351-641-1172
; Sequence 1172, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; PRIOR FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1172
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide
US-10-351-641-1172

Query Match 82.0%; Score 41; DB 14; Length 18;
Best Local Similarity 60.0%; Pred. NO. 1.7;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPG 10
:|||||
Db 5 QHWSYGLRPG 14

RESULT 34

US-10-351-641-1173
; Sequence 1173, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; PRIOR FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20

; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1173
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide
US-10-351-641-1173

Query Match 82.0%; Score 41; DB 14; Length 18;
Best Local Similarity 60.0%; Pred. No. 1.7;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPG 10
:|||||
DB 5 QHWSYGLRPG 14

RESULT 35

US-09-964-201A-26
; Sequence 26, Application US/09964201A
; Publication No. US20030091575A1
; GENERAL INFORMATION:
; APPLICANT: Kanten, John H
; APPLICANT: Tramontano, Alfonso
; APPLICANT: Pilon, Aprile L
; APPLICANT: Lohnas, Gerald L
; APPLICANT: Roberts, Steven F
; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
; FILE REFERENCE: U.S. Patent Application No. US20030091575A1 09\026,276
; CURRENT APPLICATION NUMBER: US/09/964,201A
; CURRENT FILING DATE: 2002-05-21
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 26
; LENGTH: 20
; TYPE: PRT
; ORGANISM: Porcine
US-09-964-201A-26

Query Match 82.0%; Score 41; DB 10; Length 20;
Best Local Similarity 60.0%; Pred. No. 1.9;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPG 10
:|||||
DB 1 QHWSYGLRPG 10

RESULT 36

US-10-351-641-1145
; Sequence 1145, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; CURRENT FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20

; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1145
; LENGTH: 22
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide
US-10-351-641-1145

Query Match 82.0%; Score 41; DB 14; Length 22;
Best Local Similarity 60.0%; Pred. No. 2.1;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPG 10
:|||||
DB 9 QHWSYGLRPG 18

RESULT 37

US-10-351-641-1144
; Sequence 1144, Application US/10351641
; Publication No. US20030186874A1
; GENERAL INFORMATION:
; APPLICANT: Barney, S.
; APPLICANT: Guthrie, K.
; APPLICANT: Merutka, G.
; APPLICANT: Anwer, M.
; APPLICANT: Lambert, D.
; TITLE OF INVENTION: HYBRID POLYPEPTIDES WITH ENHANCED PHARMACOKINETIC
; FILE REFERENCE: 7872-100
; CURRENT APPLICATION NUMBER: US/10/351,641
; CURRENT FILING DATE: 2003-01-24
; PRIOR APPLICATION NUMBER: 09/350,641
; PRIOR FILING DATE: 1999-07-09
; PRIOR APPLICATION NUMBER: 09/315,304
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/082,279
; PRIOR FILING DATE: 1998-05-20
; NUMBER OF SEQ ID NOS: 1757
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1144
; LENGTH: 26
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Core polypeptide
US-10-351-641-1144

Query Match 82.0%; Score 41; DB 14; Length 26;
Best Local Similarity 60.0%; Pred. No. 2.4;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSXGXPG 10
:|||||
DB 9 QHWSYGLRPG 18

RESULT 38

US-10-617-561-3
; Sequence 3, Application US/10617561
; Publication No. US20040018967A1
; GENERAL INFORMATION:
; APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors
; Enright, Frederick M.
; Jaynes, Jesse M.
; Hansel, William
; Koonce, Kenneth L.
; McCann, Samuel M.
; Yu, Wen H.
; Melrose, Patricia A.
; Foll, Lane D.

Elzer, Philip H.
TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and Methods of Use
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: John H. Runnels
STREET: P. O. Box 2471
CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/10/617,561
FILING DATE: 11-Jul-2003
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/09/381,879
FILING DATE: 25-Aug-1999
ATTORNEY/AGENT INFORMATION:
NAME: Runnels, John H.
REGISTRATION NUMBER: 33,451
REFERENCE/DOCKET NUMBER: 96A3.2-US
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 33 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..33
OTHER INFORMATION: /note= "This sequence is a modified GHRH/hecate fusion peptide."
SEQUENCE DESCRIPTION: SEQ ID NO: 3:
US-10-617-561-3
Query Match 82.0%; Score 41; DB 15; Length 33;
Best Local Similarity 60.0%; Pred. No. 3;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWSXGXPG 10
Db 1 QHWSYGLRPG 10
RESULT 39
US-10-617-561-4
Sequence 4, Application US/10617561
Publication No. US20040018967A1
GENERAL INFORMATION:
APPLICANT: La. State Univ. & Mech. Coll., Board of Supervisors
Enright, Frederick M.
Jaynes, Jesse M.
Hansel, William
Koonce, Kenneth L.
McCann, Samuel M.
Yu, Wen H.
Melrose, Patricia A.
Foil, Lane D.
Elzer, Philip H.
TITLE OF INVENTION: Ligand/Lytic Peptide Compositions and Methods of Use
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: John H. Runnels

STREET: P. O. Box 2471
CITY: Baton Rouge
STATE: LA
COUNTRY: USA
ZIP: 70821-2471
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/10/617,561
FILING DATE: 11-Jul-2003
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/09/381,879
FILING DATE: 25-Aug-1999
ATTORNEY/AGENT INFORMATION:
NAME: Runnels, John H.
REGISTRATION NUMBER: 33,451
REFERENCE/DOCKET NUMBER: 96A3.2-US
TELEPHONE: (225) 387-3221
TELEFAX: (225) 346-8049
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 33 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
FEATURE:
NAME/KEY: Peptide
LOCATION: 1..33
OTHER INFORMATION: /note= "This sequence is a hecate/modified GHRH fusion peptide."
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-10-617-561-4
Query Match 82.0%; Score 41; DB 15; Length 33;
Best Local Similarity 60.0%; Pred. No. 3;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 EHWSXGXPG 10
Db 24 QHWSYGLRPG 33
RESULT 40
US-09-964-201A-35
Sequence 35, Application US/09964201A
Publication No. US20030091575A1
GENERAL INFORMATION:
APPLICANT: Kenten, John H
APPLICANT: Tramontano, Alfonso
APPLICANT: Pilon, Aprile L
APPLICANT: Lohnas, Gerald L
APPLICANT: Roberts, Steven F
TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
FILE REFERENCE: U.S. Patent Application No. US20030091575A1 09\026,276
CURRENT APPLICATION NUMBER: US/09/964,201A
CURRENT FILING DATE: 2002-05-21
NUMBER OF SEQ ID NOS: 35
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 35
LENGTH: 40
TYPE: PRT
ORGANISM: Porcine
US-09-964-201A-35
Query Match 82.0%; Score 41; DB 10; Length 40;
Best Local Similarity 60.0%; Pred. No. 3.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

```
QY 1 EHWSGXKXPG 10
Db 1 QHWSYGLRPG 10

RESULT 41
US-09-964-201A-34
; Sequence 34, Application US/09964201A
; Publication No. US20030091579A1
; GENERAL INFORMATION:
; APPLICANT: Kanten, John H
; APPLICANT: Tramtano, Alfonso
; APPLICANT: Pilon, Aprile L
; APPLICANT: Lohmas, Gerald L
; APPLICANT: Roberts, Steven F
; TITLE OF INVENTION: HEAT-SHOCK FUSION-BASED VACCINE SYSTEM
; FILE REFERENCE: U.S. Patent Application No. US20030091575A1 09\026,276
; CURRENT APPLICATION NUMBER: US/09/964,201A
; CURRENT FILING DATE: 2002-05-21
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 34
; LENGTH: 41
; TYPE: PRT
; ORGANISM: Porcine
US-09-964-201A-34

Query Match 82.0%; Score 41; DB 10; Length 41;
Best Local Similarity 60.0%; Pred. No. 3.6;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
Db 1 QHWSYGLRPG 10

RESULT 42
US-09-019-010-4
; Sequence 4, Application US/09019010
; Patent No. US20010014330A1
; GENERAL INFORMATION:
; APPLICANT: HARLAND, RICHARD
; APPLICANT: MANN, JOHN G.
; APPLICANT: ACRES, STEPHEN D.
; TITLE OF INVENTION: IMMUNIZATION AGAINST ENDOGENOUS
; MOLECULES
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ROBINS & ASSOCIATES
; STREET: 90 MIDDLEFIELD ROAD, SUITE 200
; CITY: MENLO PARK
; STATE: CA
; COUNTRY: USA
; ZIP: 94025
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/019,010
; FILING DATE: 05-FEB-1998
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,883
; FILING DATE: 05-FEB-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: MCCracken, THOMAS P.
; REGISTRATION NUMBER: 38,548
; REFERENCE/DOCKET NUMBER: 9001-0035
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (650) 325-7812
; TELEFAX: (650) 325-7823

QY 1 EHWSGXKXPG 10
Db 1 QHWSYGLRPG 10

RESULT 43
US-09-305-924-11
; Sequence 11, Application US/09305924A
; Publication No. US20030091579A1
; GENERAL INFORMATION:
; APPLICANT: Jack G. Manns
; APPLICANT: Stephen D. Acres
; APPLICANT: Richard Harland
; TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
; FILE REFERENCE: 9001-0048
; CURRENT APPLICATION NUMBER: US/09/305,924A
; CURRENT FILING DATE: 1999-05-05
; EARLIER APPLICATION NUMBER: US 60/084,217
; EARLIER FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 11
; LENGTH: 49
; TYPE: PRT
; ORGANISM: GnRH
US-09-305-924-11

Query Match 82.0%; Score 41; DB 10; Length 49;
Best Local Similarity 60.0%; Pred. No. 4.2;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 EHWSGXKXPG 10
Db 1 QHWSYGLRPG 10

RESULT 44
US-09-305-924-13
; Sequence 13, Application US/09305924A
; Publication No. US20030091579A1
; GENERAL INFORMATION:
; APPLICANT: Jack G. Manns
; APPLICANT: Stephen D. Acres
; APPLICANT: Richard Harland
; TITLE OF INVENTION: METHODS OF RAISING ANIMALS FOR MEAT PRODUCTION
; FILE REFERENCE: 9001-0048
; CURRENT APPLICATION NUMBER: US/09/305,924A
; CURRENT FILING DATE: 1999-05-05
; EARLIER APPLICATION NUMBER: US 60/084,217
; EARLIER FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 695
; TYPE: PRT
; ORGANISM: GnRH
US-09-305-924-13

Query Match 82.0%; Score 41; DB 10; Length 695;
Best Local Similarity 60.0%; Pred. No. 44;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
```

```
Qy 1 EHWSXGXPG 10
:|||||
Db 9 QHWSYGLRPG 18

RESULT 45
US-10-354-433-2
; Sequence 2, Application US/10354433
; Publication No. US20030236185A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; APPLICANT: Leenhouts, Cornelis J.
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 10
; TYPE: PRT
; ORGANISM: channa punctatus
US-10-354-433-2
Query Match 80.0%; Score 40; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXPG 10
:|||||
Db 1 QHWSYGLRPG 10

RESULT 46
US-10-360-101-2
; Sequence 2, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; APPLICANT: Leenhouts, Cornelis J.
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: LHRH2 sequence
US-10-360-101-2
Query Match 80.0%; Score 40; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXPG 10
:|||||
Db 1 QHWSYGLRPG 10

RESULT 47
US-10-360-101-2
; Sequence 2, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; APPLICANT: Leenhouts, Cornelis J.
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: LHRH1
US-10-360-101-126
; Sequence 126, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; APPLICANT: Leenhouts, Cornelis J.
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 126
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,C7)-sequence of LHRH1
US-10-360-101-126
Query Match 80.0%; Score 40; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXPG 10
:|||||
Db 1 QHWSYGLRPG 10

RESULT 48
US-10-360-101-136
; Sequence 136, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; APPLICANT: Leenhouts, Cornelis J.
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 136
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: (Q1,C8)-sequence of LHRH1
US-10-360-101-136
Query Match 80.0%; Score 40; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 EHWSXGXPG 10
:|||||
Db 1 QHWSYGLRPG 10

RESULT 49
US-10-360-101-303
; Sequence 303, Application US/10360101
; Publication No. US20040009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; APPLICANT: Leenhouts, Cornelis J.
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
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/ CURRENT FILING DATE: 2003-02-07
/ PRIOR APPLICATION NUMBER: EP 02077060.8
/ PRIOR FILING DATE: 2002-05-24
/ NUMBER OF SEQ ID NOS: 309
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 303
/ LENGTH: 10
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: LHRH1 analogue
/ FEATURE:
/ NAME/KEY: SITE
/ LOCATION: (4)..(6)
/ OTHER INFORMATION: No. US20040009550A1e = "A" on pos. 4 and 6 are linked by "S"
US-10-360-101-303

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Best Local Similarity 60.0%; Pred. No. 1.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

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Db      1 QHWSHGWP 10

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RESULT 50
US-10-360-101-304
/ Sequence 304, Application US/10360101
/ Publication No. US20040009550A1
/ GENERAL INFORMATION:
/ APPLICANT: Moll, Gert N.
/ TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
/ FILE REFERENCE: 2183-5673
/ CURRENT APPLICATION NUMBER: US/10/360,101
/ CURRENT FILING DATE: 2003-02-07
/ PRIOR APPLICATION NUMBER: EP 02077060.8
/ PRIOR FILING DATE: 2002-05-24
/ NUMBER OF SEQ ID NOS: 309
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 304
/ LENGTH: 10
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: LHRH2 analogue
US-10-360-101-304

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Query Match      80.0%; Score 40; DB 15; Length 10;
Best Local Similarity 60.0%; Pred. No. 1.5;
Matches 6; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

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QY      1 EHWXGXKPG 10
Db      1 QHWSHGWP 10

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Search completed: March 2, 2004, 19:30:08
Job time : 31 secs

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